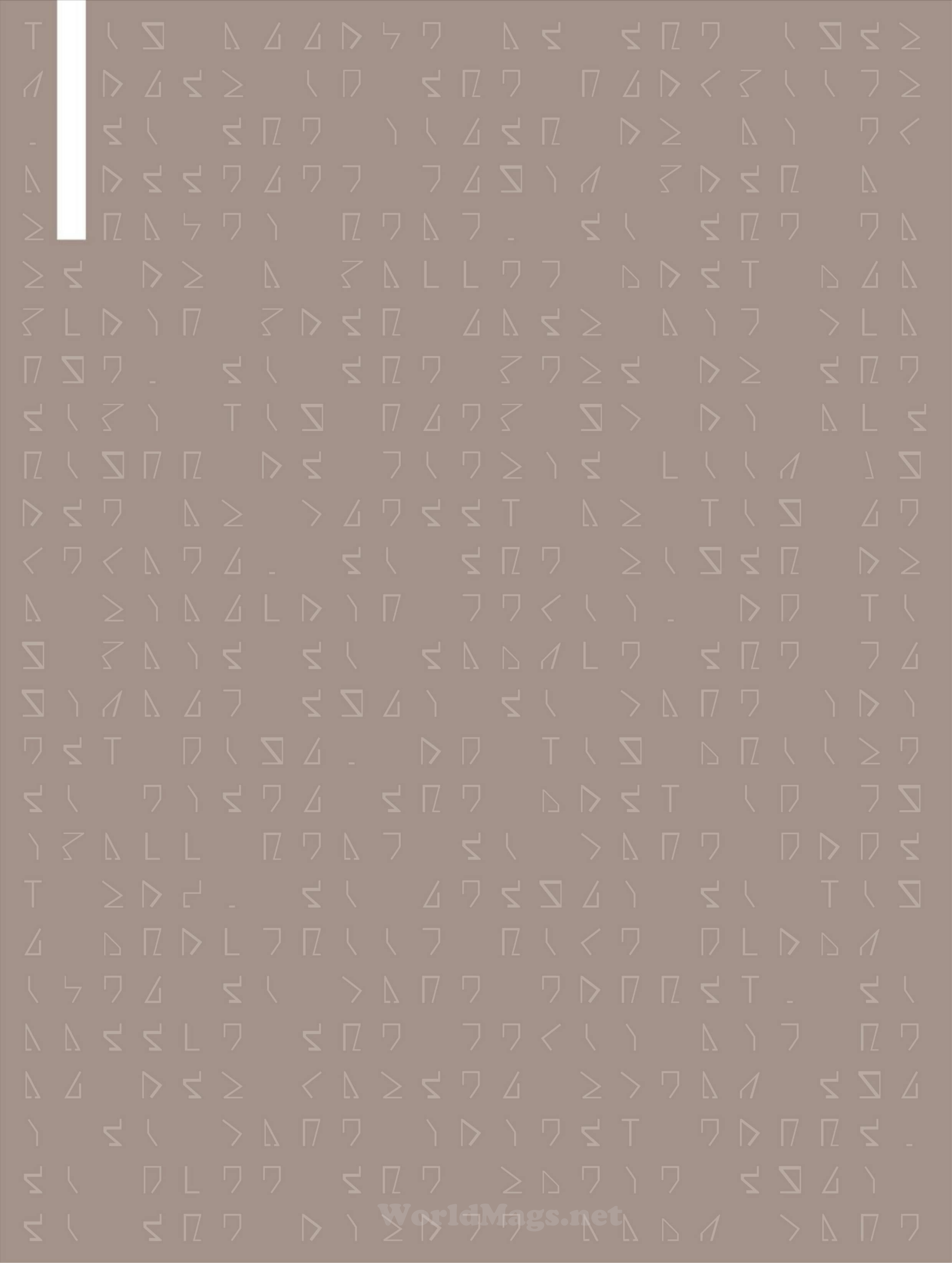
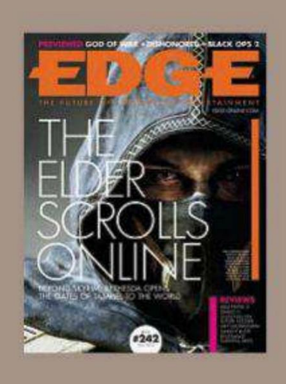

PREVIEWED GOD OF WAR + DISHONORED + BLACK OPS 2
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THE ELDER SCROLLS ONLINE
How is Bethesda forging massively multiplayer adventuring from its resolutely singleplayer flagship RPG? On p48 we talk to a developer that wants to return the thrills of freedom, discovery and choice to the fantasy MMOG
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DIRT SHOWDOWN
GRAVITY RUSH
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#242
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Meanwhile, in the tavern, talk turns to adventuring



We estimate that between the four of us sitting in this pub, we've clocked up around 350 hours in *Skyrim*. And yet, as we tell stories of our adventures, we realise that we've barely shared the same journeys. "What do you mean you sacrificed Stenvar? I married him!" says one. Another rhapsodises over his torture chambers, while another explains how he's maxed out his stealth attributes to the point that he's now permanently invisible and can kill anything in one hit. *Skyrim*, it turns out, is huge. On the other hand, Tamriel, of which Skyrim is merely a province, is enormous. And it's the setting of *The Elder Scrolls Online*, the first game in Bethesda's 18-year-old fantasy RPG series to make the jump to MMOG. That's no small leap, turning a game that has always excelled at making you feel like the world's lone hero into one in which everyone's a champion. But, as we find out in our preview beginning on p48, ZeniMax Online Studios' game feels far closer to its forebears than you might have dared expect.

A lot of this is down to the fact that its campaign is exclusively singleplayer, a decision that hints as to how deep the change to massively multiplayer really is. From our experience of speeding through four-player *Diablo III* (reviewed on p98), barely having time to delve into our inventory lest we get left behind, it's easy to imagine *The Elder Scrolls*' fabulous attention to world detail trampled beneath the boots of a group of single-minded XP grinders. Instead of stories, MMOG players engage with systems – and they have a keen eye for exploits. ZeniMax Online will surely know that it will need to trade in some of *The Elder Scrolls*' freedom and flexibility for robustness and security; bunny-hopping across Cyrodiil to boost our acrobatic skills was silly enough when we didn't have legions of onlookers. We'll know how successful it has been if we're in that same pub telling each other tales six months after launch. And for those grimly amused that Blizzard is requiring a singleplayer game to be online just as Bethesda reveals a singleplayer MMOG, you're not alone.



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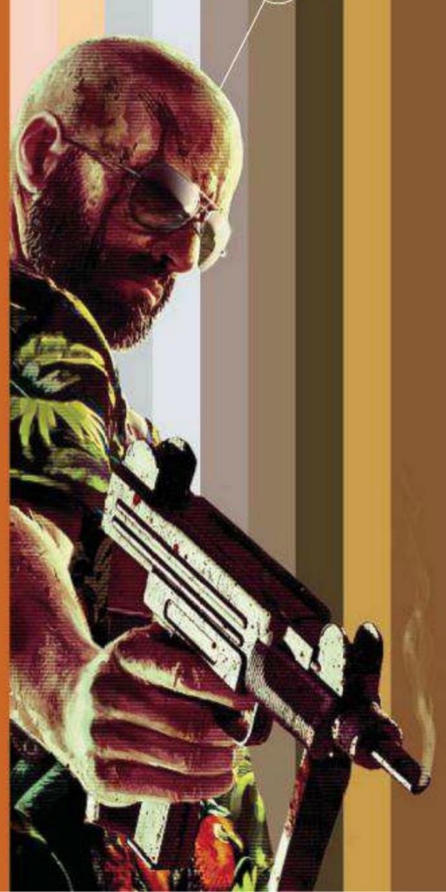
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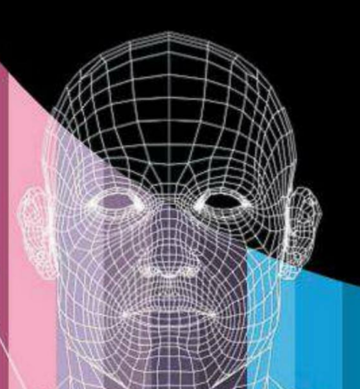
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GAMING WORLD INSIGHT, INTERROGATION AND INFORMATION



WLEDGE

Google's (1) Native Client, which can run console-quality games from a browser, should be a revolution, but it's not seeing much action at the moment. We examine why on p12. Then on p16, we learn more about the collaboration between Japanese studio From Software and Frognation to get the voice recording and translation work in its acclaimed action-RPG *Dark Souls* (2) just right. Pixel perfection is the business of shadowy Ubisoft Paris designer 'Noirlac' (3), and on p18 we drink in his takes on the pixel art from retro and forgotten games. Using games as a way to connect with broader audiences is nothing new, but BMW (4) has taken it a step further with *The BMW Experience*, an add-on to upcoming free-to-play PC racing sim *Auto Club Revolution* – find out about the only way most of us will get to drive a BMW 1 Series M Coupé on p20. If you're not the designated driver, we visit Loading (5) on p22, a gaming-themed bar that's an "extension of your front room with games". Then Soundbytes are the order of the day on p24, as Suda51 (6) tells about the inspiration for *Lollipop Chainsaw*'s killer cheerleader and Scarlett Johansson reveals The Avengers enjoyed *Dance Dance Revolution* competitions. Finally, on p28 we catch up with TV writer Graham Linehan (7), who has a fondness for a *Majora's Mask* and a rare perspective on game writing.



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Up-to-the-minute game news and views

Who's playing in Chrome's sandbox?

Native Client, Google's revolutionary web gaming technology, hasn't taken off. Why?

Last December, Google proudly showed off what was by all rights a modern marvel: full console games playing in a browser without the need for plugins. Driven by Google's Native Client (NaCl) technology, which is built into Chrome, and demonstrated through *Bastion* and *Mini Ninjas*, it marked a push in a new direction in web gaming, one freed from the constraints of cranky old Flash and no-frills HTML. All it needed was the browser.

Since then, however, the only big-name, big-budget game release using NaCl has been Ubisoft's *From Dust*, arriving with almost no fanfare in April. It boasts, at the time of printing, just 1,770 players. In fact, if you search the Chrome Web Store, you'll find very few games for Native Client at all. For a technology with such promise, why hasn't it taken off?

In May 2010, Google featured a working version of *Pac-Man* as one of its one-off logos, in which the yellow dot-eater negotiated the search king's blue, red, yellow and green letterforms. Commemorating the game's 30th anniversary, it ran smoothly using HTML and Javascript and immediately hit the web by storm. For all that popularity, few could have realised that it in many ways marked a new strategy for the corporation, one in which the browser wasn't simply a conduit to fulfil Google's mission to "organise the world's information and make it universally accessible and useful". It was also to build a game platform.

Browsers were already rich grounds for gaming, of course, be it through Java, Flash or Unity, but Google's vision was to ditch the plugin entirely with NaCl. In fact, it would run the same code that would run in a program natively written for, say, Windows. And that same code would run regardless of operating system – all it needed was a browser. Google officially introduced NaCl in a demonstration featuring a *Quake* clone a few days before its Pac-Man logo went live. NaCl was made publicly available in Chrome in September 2011's version 14, but, being open sourced, it's free for other browsers to incorporate it, too.

> "Console-quality games are now possible right in your browser – that's still a shock to most people"

"It means excuses are now gone for browser games," says **James Green**, co-founder of Carbon Games, creator of one of NaCl's few burgeoning success stories, *AirMech*. "This is even better than Flash, with its constant updates and unreliable behaviour. Console-quality games are now possible right in your browser, and that's still a shock to most people. It's going to blur the line between platforms, and 'browser gaming' as a term will mean less and less. It will be expected that any game can run from anywhere, and not be some watered-down web game."

That's one side of the story. The other is development. Chief among Google's rationales for NaCl is that it offers a clear route for traditional developers to create games for the web. "You get these traditional game developers who see potential money in the future of the web but aren't adapting because they've got 10 years and $40 million invested in their C++ codebase, tools and development, and people they've hired sitting in the pit who have 30-plus years of C++ experience," says **Colt McAnlis**, a game developer advocate at Google. "As a traditional game developer, the web is a scary, weird place. So we're finding a lot of people in the traditional industry are scared and finally see NaCl as that beacon on the horizon."

Or an opportunity to dip their toes in the water, as evinced by Square Enix's single NaCl game, *Mini Ninjas*, and Ubisoft's *From Dust*. "If you've got a developer that's only made 360 games, they're driven towards how to make it better on Xbox. Then you say, 'Cool, monetise it for the web,' and they're kinda lacking. So they say, 'Let's just bring a product over and see how it does.' Like an oil tanker that takes two days to turn around – these guys are the same way, taking a couple of key engineers [to] test the waters."

NaCl's low barrier to entry is attractive to small, nimble indies, though. Carbon Games, which is staffed by veterans of defunct *Fat Princess* developer Titan Studios, wanted to make a free-to-play game that was easily accessible, click-and-play, if possible – and on all major

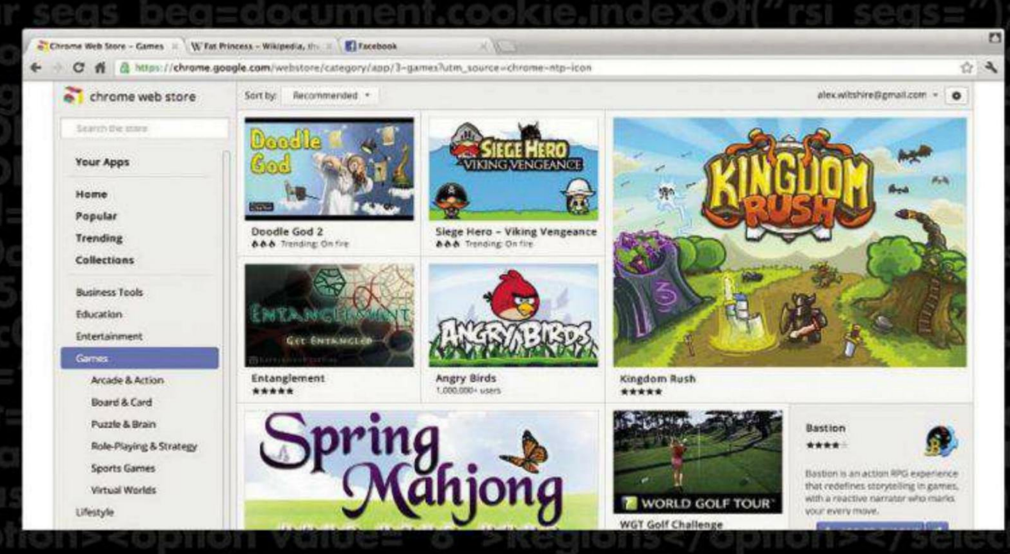
WHAT'S IN IT FOR GOOGLE?

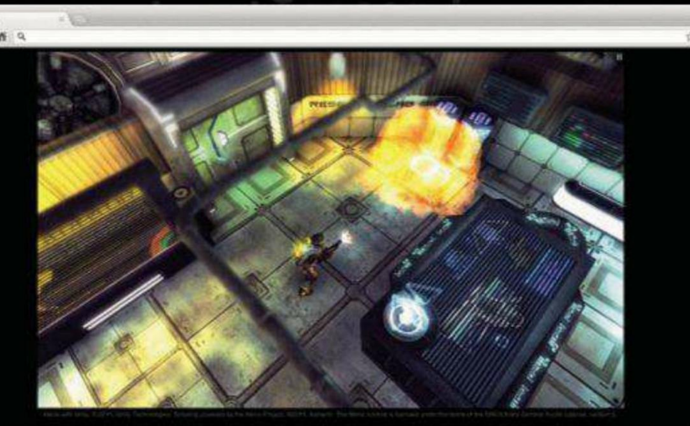
Google's official mandate doesn't appear to have a lot to do with gaming, so why is it getting into the industry? McAnlis suggests that gaming is a natural part of Google's mission to be a 'janitor' of the Internet – if web gaming is big, then Google should help make it better. More realistically, the answer seems to lie just where you'd expect: money. Gaming taps into many of Google's products, such as Google Wallet, storefronts, Google+, and its cloud server and search technology. "Our back-end services can host, distribute, market, and monetise," McAnlis says. "Gaming is part of our society now. We've got a lot of architecture that, oddly enough, works very well for games. You want gaming in the cloud? We've got all this technology on doing cloud services."



Google's Colt McAnlis worked as a graphics programmer for Ensemble's *Halo Wars*

Chrome was first released in September 2008. Extensively advertised, it overtook Firefox's usage share in late 2011, and is fast catching up with Microsoft's dwindling Internet Explorer





ABOVE **The Chrome Web Store allows users to install a huge variety of games to their browser, but most run through Flash. It doesn't include a section devoted to Native Client games.** RIGHT **Native Client enables support for games built in the Unity engine, as demoed by Unity's own *Angry Bots***





platforms. "That leads you to making your game run in a web browser," says Green. "This led us to Native Client, which gives us more performance and flexibility than other web technologies. On top of that, it's a great 'lowest common denominator' platform, and has made porting to other platforms, such as Android, very quick. [It took] just one day to get the game up and running from the Native Client version."

For Supergiant Games creative director **Greg Kasavin**, NaCl was a chance to expand an existing game's remit. "Basically, we leaned of this technology that would allow us to bring the game, with no compromise to its quality, to all the millions and millions of Chrome browsers out there and in so doing basically make the game available to a much larger game-playing population."

At the time, the nine-strong team was getting requests for the game to appear on Mac and Linux. "It seemed like we could kind of kill two birds with one stone by having a version that ran cross-platform that way."

But Supergiant didn't find the porting process quite as easy as McAnlis makes it sound. "It was a pretty intense engineering job, like four or five months of work," Kasavin says. The studio got in freelance engineers to help its own, as well as collaborating with McAnlis and others from Google. Apart from the fact NaCl was still in development, the challenge was that *Bastion*, first written for Microsoft's XNA, had to be retooled. "There's a lot of kind of low-level engineering work required to accomplish that," Kasavin says. "From the player's experience, the goal was for there to be no discernible difference whatsoever."

And there isn't: it downloads remarkably quickly for a game that clocks in at over 500MB on XBLA, and looks just as fine. As Green says, both the 2D graphical beauty of *Bastion* and the 3D scale of *From Dust* challenge the very idea of web games, and NaCl means they're more or less as easy to find and start playing as the web's ubiquitous Flash games. But with ease of access comes the expectation that a game should run smoothly on any machine, and these two games, designed for current-gen consoles, run badly on most non-3D accelerated laptops. Compounding the problem is the fact that the broad audiences these games can newly access are just the type of people to become most frustrated by them not working properly, because they don't understand why.

Moreover, games such as *From Dust*, *Bastion* and *Mini Ninjas* were originally designed to be played on the sofa on a TV, rather than in a browser tab. They don't boast the immediacy of web games, being built on gentle tutorials, exposition and the expectation of long play sessions, nor do they

Bastion detects a user's system specs and Internet connection and downscales the art to 720p if they're too low. "It's a challenge to account for the millions of different system permutations out there," says Supergiant's Kasavin

feature the same connected, social qualities. Naturally, these three games represent a first generation, one that *AirMech* and the first 3D NaCl game, *Sixty Second Shooter*, neatly sidestep by being driven by online multiplayer and being a leaderboard-driven arcade blast respectively.

But you have to wonder whether *Bastion*, *Mini Ninjas* and *From Dust* have given the wrong message about NaCl, putting it into territory that cloud gaming platforms OnLive and Gaikai may more naturally occupy. Because cloud gaming provides most of the benefits that NaCl does but without the need for downloading or the hassle of dealing with PC specifications.

And then there's the fact that NaCl is tied to Chrome, which after a meteoric rise over the past few months now holds roughly a third of the browser market. Though NaCl's technology is open source, the other major browser makers seem unlikely to adopt it. The heads of both both Opera and Mozilla have said they see it as at odds with the purity, simplicity, focus and flexibility of HTML. Why muddy the identity of the browser? Looking at that question from users' point of view, how many of them use the Chrome Web Store, or even see the relevance for an app marketplace for a program they regard as that thing they use for Facebook and Amazon? "People are realising that there are other cool things here," claims McAnlis, before admitting, "we're also fighting for 'Hey, what is a web app?' That's this whole education process on the web, we're fighting two corners – what is a web app and an app marketplace?"

How many people use the Chrome Web Store, or even see the relevance of an app marketplace?

There's no doubt, though, that for the rest of us NaCl is a fascinating idea. But it takes games like *AirMech* to make it more than a novelty populated by cautious test beds. Says Supergiant's Kasavin, who takes the 'never say never' route to answering whether he'd use NaCl again: "It's such a chaotic time in the game industry when it comes to gaming platforms and which devices and platforms people are playing on, and part of our decision to be on Chrome is very much in light of that. It's like, 'Hey, maybe this is going to be where a lot of people end up,' and we should definitely just keep our eyes open to everything."

Built for the web and taking advantage of NaCl's strengths, *AirMech* has the potential to be the platform's first true success story. But quite where its next one might come from is a mystery. Google's revolution is taking its time in coming. ■





Supergiant Games creative director Greg Kasavin (top); Carbon Games co-founder James Green (below)

Words and sorcery

Victory in Demon's Souls and Dark Souls requires collaboration, as did their localisation processes

When **Hidetaka Miyazaki** began development on FromSoftware's acclaimed action-RPG *Demon's Souls*, the director's love of western fantasy literature made him determined to cast UK actors for the voice parts. This ambition would eventually lead him to English localisation partner Frognation, whose sterling reputation and ability to handle voice recording as well as translation made it an ideal collaborator. While Miyazaki was in London recently to oversee a recording session for the bonus material on *Dark Souls: Prepare To Die Edition* for PC, we sat down with him and Frognation translator **Ryan Morris** to discuss the process and value of the localisation for the pair of infamously tricky games.

Can you step us through the process of localising both *Demon's Souls* and *Dark Souls*?
Ryan Morris Once Miyazaki gives us a script, we do our first-run translation. This is mostly me, but my Japanese Frognation colleagues Kengo Watanabe and Ema Kodaka check for accuracy. At this point we go back to Miyazaki and initiate a dialogue, asking him a slew of questions concerning context, whether it be about how the game plays, physical appearance of characters, backstory, etc. This part of the process also involves back translating, where we suggest changes that would improve the English draft, and which Miyazaki will co-opt into the Japanese script. This makes it very different from a one-way localisation, which happens after the Japanese product is perfectly complete. Once Kengo, Ema, and Miyazaki have helped me iron out the kinks, Lynn Robson cleans up my English, and rewrites characters that require a more archaic flavour. That's the process in a nutshell.

Does the scarcity of dialogue in *Demon's Souls* and *Dark Souls* add extra pressure to the localisation effort, since each piece has to carry more weight in conveying story and gameplay direction?
Hidetaka Miyazaki One of the goals of the *Demon's Souls* concept was to [say] more with less, and so the sparse dialogue that does exist becomes very important. When I was young and I was reading fantasy novels, and this is a stage where I could only understand maybe half of what I was reading, there was an allure to not knowing entirely what was going on. So I had this idea that there would perhaps be some way to create that kind of feeling in a game. My method of storytelling comes from that inspiration – the shadowy parts of a story, or a legend that you can't make out.

"There are even cases where the localised draft would come back and I'd adjust the Japanese script"

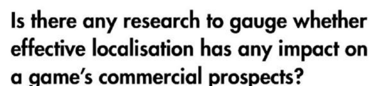
Usually game patches address gameplay balance concerns or bugs, but the latest *Dark Souls* patch altered the phrases you see when you die or kill a boss. Was that due to a breakdown in the localisation process?
RM There was an operational error that led to that first set of messages getting through to the public. It was my opinion that some of them were awkward and we could improve upon them. And I felt it was important to do so. There was a kink in the process and some funny messages [which were written in-house] got through.
HM From our perspective, I was embarrassed by the switch…



From Software's Hidetaka Miyazaki (left) and Frognation's Ryan Morris began working together when the director decided he wanted a UK-based localisation firm for *Demon's Souls*



Frognation asks developers to allow for creative license as opposed to engaging in strictly literal translation. Given how dear the *Souls* games are to you, Miyazaki, do you struggle with ceding that control?
HM With the drafts that I write, I don't feel like it has to be faithfully translated to reflect exactly every meaning that I included. I want it to be improved wherever possible with input from other sources. I really enjoy the process of having the English come back and seeing how it turned out and what parts were decorated in certain ways. There are even cases where the localised draft would come back and I'd adjust the Japanese script to reflect the parts that I feel are effective in English. So these ideas are like my babies, but in order for them to grow up and enter the real world they need input and stimuli from other sources – localisers, my team, everybody who works on the game.

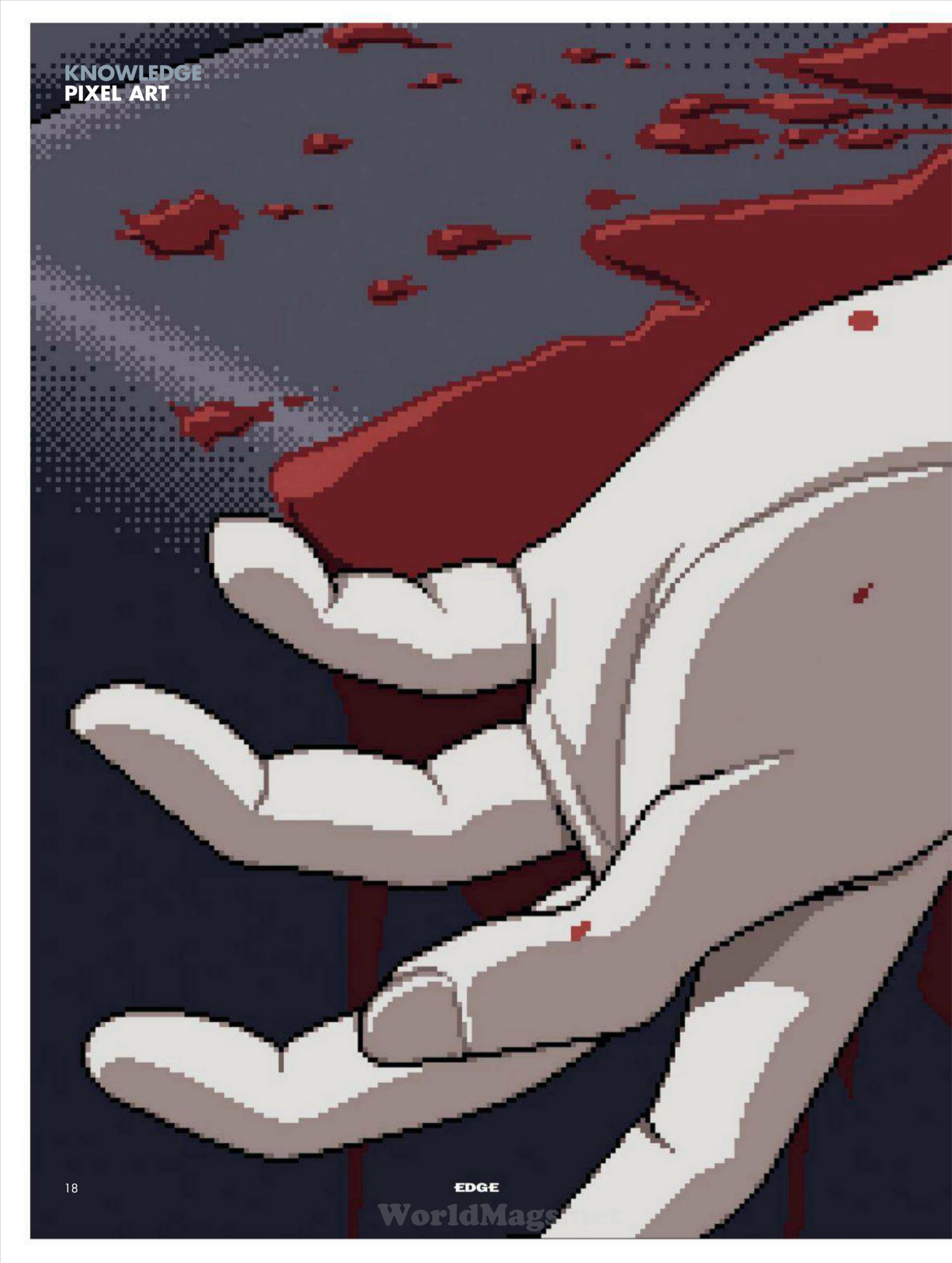


Is there any research to gauge whether effective localisation has any impact on a game's commercial prospects?
RM Not that I know of. But I do think that companies do underestimate the importance of text. Even small mistakes can take somebody out of the universe and remind them that they're playing a product made by people in an office, and it's not very much fun if you're trying to immerse yourself [in that world]. It's important to take great care with language, and it's an important facet of the game experience.



Demon's Souls and follow-up *Dark Souls* have amassed a devoted following with their mix of deliberately paced combat, vivid settings and ambient narratives

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Extended interview material





SQUARE EYES

Meet the shadowy Ubisoft designer making art out of gaming's history

Are videogames art? It's a question that may conjure a sigh or a vitriolic outburst, but for an anonymous designer at Ubisoft Paris, who goes by the alias 'Noirlac', games are already art. It's just a question of plucking a perfect image from a retro game, touching it up, and posting it on Tumblr, without description or explanation, for the world to see.

"Pixel art never grows old," says Noirlac. "It reminds everybody [of] the golden age of videogames, but it's more than that. Pixel art is not simply retro, it's a way to create beautiful and stylish things. You can, of course, use it as a way to make games – even today you have great games that use pixel art – but you can also easily use it to do real art. Today, there's plenty of great artists using this medium to express a lot of feelings, even some political thought. For me, pixel art is important because it's a true art. It's my favourite way to express myself."

Noirlac updates his Tumblr account many times a day with a huge variety of images, some animated, some betraying the limited palettes of 8bit machines. He uses emulators and other free tools in order to capture screenshots of old games. After that, he explains, "It all depends on my mood on the day. I can work on landscapes, cityscapes, characters, monsters, abstract things, etcetera. I'm mostly using Photoshop CS5 for creating my own pixel art or editing old game screenshots. Simply use the pencil tool set to 1px – [that way] you can have a 1x1 grid, too, which makes it perfect for pixel art. You can also draw individual frames on to separate layers, [so it's] easy to create an animated GIF.

"When I have a few screenshots that I like, I browse into them to find a detail that I want to put forward on the blog. There are tons of little things to watch. For the viewer, it's an easy way to admire and enjoy the work of those pixel artists." ■

Many of Noirlac's choices for his collection at noirlac.tumblr.com are from games not widely known outside of Japan. He's taken art from titles such as adventure game *The Earth Fighter Rayieza* (left), manga spin-off *3x3 Eyes: Sanjiyan Henjo* (right) and the explicit interactive fiction of *Gloria* (main image). He also creates his own

Drive-by marketing

How BMW and Auto Club Revolution are going beyond test drives with free-to-play advertising

Even if you can afford the £40,000 for one, you'll probably never get to drive the BMW 1 Series M Coupé in real life. BMW and *Auto Club Revolution* maker Eutechnyx offer an alternative, though: a standalone game called *The BMW Experience* that connects with the PC free-to-play racer, allowing the masses to get behind the wheel of this limited-run car.

Licensed cars in driving games are nothing new, of course, even if one like this is a novelty in the free-to-play arena. A company of the stature of BMW taking such a strong interest in videogames is a different matter, however, especially when coupled with its willingness to let people cut loose and have fun with one of its cars, instead of simply confining players to a glorified showroom.

The BMW Experience comes in two parts. The first is a pure promo for the 1 Series M Coupé, designed to show it off at its best. You get to customise its colour – the Valencia Orange option apparently being so favoured that Eutechnyx has written a custom shader to convey the feeling of motion people supposedly get when gazing upon the real one – and make a couple of other small tweaks. This done, you take it around a single lap of a track made specifically to cater to the car's strengths. Cross the finish line and you're sent back to the web to see a video of BMW chief engineer Frank Isenberg congratulating you and handing over a set of keys, regardless of how many times you crashed his baby into the walls. It's all as welcoming as it is slick, but it's still what you'd expect in an approved advergame: professional, clean, and very on-message.

Things open up after this first lap and video, which take just a few minutes from start to finish. It's then that *The BMW Experience* hands you over to *Auto Club Revolution* proper, giving you the 1 Series M Coupé as your starting car (or adding it to your account if you already have one) and removing all the restraints. Now you can race as much as you want, including against other players, and do whatever you like to the car – you'll even have the freedom to swap out BMW's components and to use *Auto Club Revolution*'s powerful livery editor to make a total mess of it with gashes and custom decals. And BMW is, perhaps surprisingly, absolutely fine with this.



Darren Jobling is the COO of Eutechnyx, which is currently developing the free-to-play racer *Auto Club Revolution*

"I think they're big boys and girls and it's not really their motivation to police it," says **Darren Jobling**, COO of Eutechnyx. "They don't want anything that's going to do them damage, but they're well aware of what social media gets up to."

> "We presumed they would want an experience with paper walls… that couldn't be further from the truth"

It's an impressively mature approach – after all, the idea that someone messing around in a game or uploading a comedy YouTube video could ruin the reputation of a company such as BMW is ridiculous. But even Eutechnyx wasn't expecting to be able to go straight from an incredibly controlled experience to the social wild west. "We presumed they would want an experience with paper walls – that you'd have your own little BMW world," says Jobling. "In actual fact, that couldn't be further from the truth."



It all makes sense, though, as does giving the car away for free. The idea of *The BMW Experience* is to push the brand more than the 1 Series M Coupé itself, given the limited number of them in circulation, and working with a free-to-play game offers the best chance of a big community seeing and driving the new car. Many new players will never switch from this starting car, and even if they do it will stay in their collections. As for existing players, they'll probably try it.

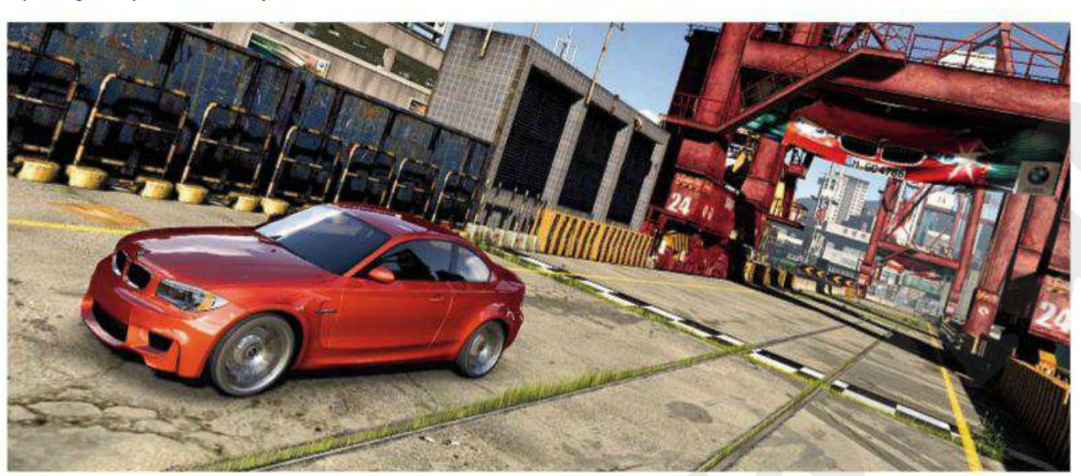
Longterm, though, a potentially more important benefit than advertising is that games represent two-way communication, and BMW will be able to see not only how many people use its car, but how they use it. "A lot of people are going to interact with this car, experience what it's like… you can gather a heck of a lot of information," explains Jobling. "What colours they picked, which wheels they use, where they're racing – that's all of interest. [BMW will] know, for instance, that people who buy an 1 Series M want to race on licensed circuits, and can thus get an idea of where to target future campaigns."

Despite the high profile of *The BMW Experience*, *ACR* isn't tied to BMW – once it's in game, the 1 Series M Coupé can sit alongside everything from the Bugatti Veyron to a Nissan GT or Ford Focus. Eutechnyx plans to try to get as many cars and manufacturers involved as possible during the game's life, with the potential for many more experiments like this one. Assuming *ACR* attracts a strong community, similarly high-profile vehicles stand to get a lot of attention from future promotions – not least because most cars currently cost between £2 and £12 in *ACR*'s cash shop. The community may or may not turn its virtual test drives into real-world rides, but there are definitely worse ways to earn a little goodwill. ■



The physics model for the digital 1 Series M Coupé is based on the modeller's extensive hands-on experience with the real-world car. We have to take Eutechnyx and BMW's word for it that *ACR* is replicating the experience accurately, however





WRECKING CRUDE

Why scratches and scrapes are the worst of your car's fates



The BMW Experience won't let drivers reduce the car to scrap metal. Was BMW against it? "There's a little bit of an urban myth regarding damage and cars," says Jobling. "We've been doing car games for 12 years and manufacturers have always allowed damage. They don't want you to *hurt* anyone, but they're realistic. If I hit a wall at 30mph, then I'm going to damage the car, and that should be portrayed." Instead, it's a technical issue. "Download size," says Jobling. "A damaged car model is a bigger car model. Damage modelling is in the plan, but we don't want to go crazy and create huge downloads."

HAPPY HOUR

Loading, a UK-based gaming café, invites you to mix your passion for gaming with a social drink

Under normal circumstances, being served a cocktail with a syringe floating in it would be ample justification for a lawsuit. But in the case of Loading, a gaming-themed bar and café located in Falmouth, Cornwall, the *Resident Evil*-based G- and T-Virus cocktail (pictured) has become the venue's signature drink. Its founder, **James Dance**, began putting together its gaming-inspired drinks menu in early 2011, around the same time that he was approaching game publishers about potential sponsorship deals.

"Capcom got in touch when they noticed we didn't have a drink dedicated to any of their titles," says Dance. "After a brainstorming session examining which of their titles could work as a cocktail, I stumbled across the *Resident Evil* anniversary cocktail they had created in Tokyo and went about creating a UK equal."

With the presence of both game retail and arcades having dwindled in recent years, gamers have fewer social spaces catering to their interests, a circumstance that only makes Loading's themed game nights and classic and current consoles more attractive. "Starting a place that's the extension of your front room with games is a pretty universal dream for anyone that's picked up a controller," says Dance. He's now courting investment in the hopes of opening a London branch. ■



www.bit.ly/Msetj3
A gallery of Loading and its drinks

Soundbytes

Game commentary in snack-sized mouthfuls

"We did actually play *Dance Dance Revolution*. There so many videotapes like Tom Hiddleston and I doing the Macarena or something – **from the back it's absolutely absurd."**

Scarlett Johansson reveals what The Avengers got up to when they weren't saving the world

"The idea is to thank everyone in the United States. And we'll keep going, going, going around the world."

A wholesome Facebook game that revolves around thanking people? It could only be from the mind of **Oprah Winfrey**

"I got the image of seeing a zombie get decapitated with **blood bursting from its neck,** and having a rainbow appear from that… That's when I realised, 'Hey, maybe I can make a game that's kind of new.'"

Suda 51 on the inspiration that lead to *Lollipop Chainsaw*'s killer cheerleader

"We've uncovered opportunities to make *Infinite* into something even more extraordinary."



Ken Levine tries to offset the disappointment of *BioShock Infinite*'s delay to February 2013

ARCADE WATCH

Keeping an eye on the coin-op gaming scene



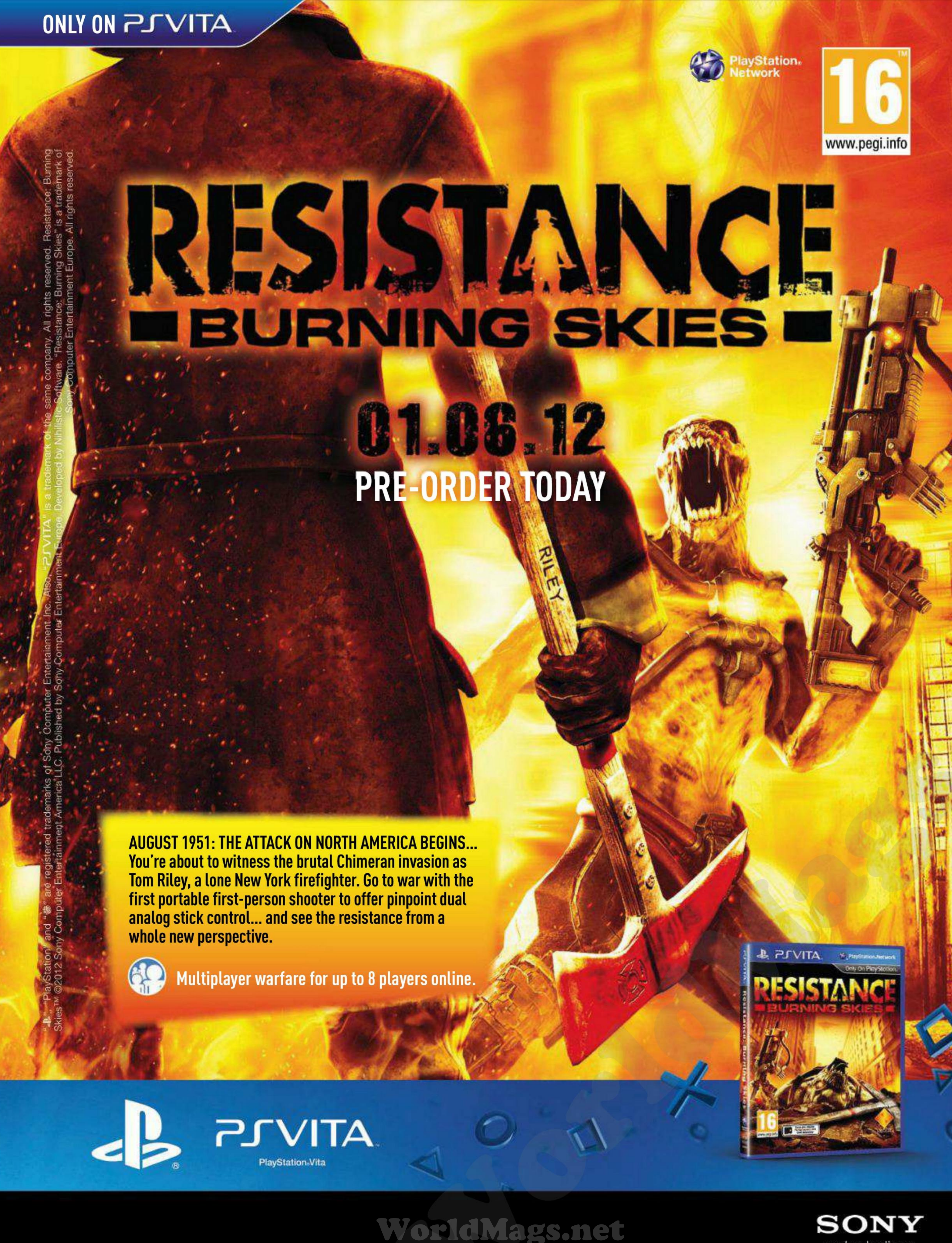
Game Visual Sports
Manufacturer Visual Sports Systems

The living room may have become the battleground for motion- and gesture-controlled gaming, but the arcade scene arguably got there first. Konami's MoCap system made its debut to the amusement masses in 2000, pioneered by titles like *MoCap Boxing* and *MoCap Golf*.

Canada-based developer Visual Sports Systems aims to revive and revamp high-end movement mayhem outside of the home with camera technology that captures over 2,000 images per second, tracking players' direction and speed with precision. Whether it's shooting hoops, slapping a puck or swinging a club, the team's MicroSight platform (essentially the stage, or installation, on which you live out your sporting fantasy dreams) aims to make latency a thing of the past.

This is simulation as much as entertainment, with participants using real balls and clubs. A strong demonstration is *Visual Golf 9*, with its pinpoint accuracy. But this isn't to say Visual Sports isn't capable of more eccentric treats (such as *Zombie Dodgeball*), which could give mainstream action games a run for their money.





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My favourite game
Graham Linehan

The award-winning TV writer talks Battlefield 3, Majora's Mask and the state of game writing

Writer and comedian **Graham Linehan** is responsible for such notable TV sitcoms as Father Ted, Black Books and The IT Crowd. His work has earned him a shelf full of BAFTAs and even a coveted Emmy. Like Moss from The IT Crowd, Linehan has his own geeky streak, being a proud lifelong gamer.

What was your earliest experience with videogames?
Back in the dawn of time it was *Pong*, and pinball machines before that, and then being fascinated by *Space Invaders*. What happened with me is that I immediately loved the first computer games, and I used to love going to arcades. There were two arcades in Dublin I visited regularly and I used to play games like *Joust* and *Ghosts 'N Goblins* there, just really pumped money into them. And then I started on the Spectrum with *Manic Miner*. I used to love *Bugaboo (The Flea)*, and I just always stayed interested in it.

What sort of games do you play today?
Well, I've kind of gone through a long period of just being completely obsessed with *Battlefield 3*. It's so incredibly deep in terms of different playing styles. It's the first game where I can actually discuss tactics while playing. In previous multiplayer games, you can really talk about anything while you're playing, because the game kind of takes care of itself. In *Modern Warfare*, you're running around these little rat mazes, there's not much room for tactics, but in *Battlefield* there's such an incredible range of situations. Every game feels different.

TAG TEAM
Prior to working in TV, Linehan worked as a writer for Irish rock magazine Hot Press, where he hooked up with his longtime writing partner, Arthur Matthews. The pair went on to work on sketch comedy shows, but it wasn't until Father Ted in 1995 that they became well known. They've also collaborated on a book of Father Ted scripts, in addition to magazine pieces and liner notes for the alternative music compilation series Volume.



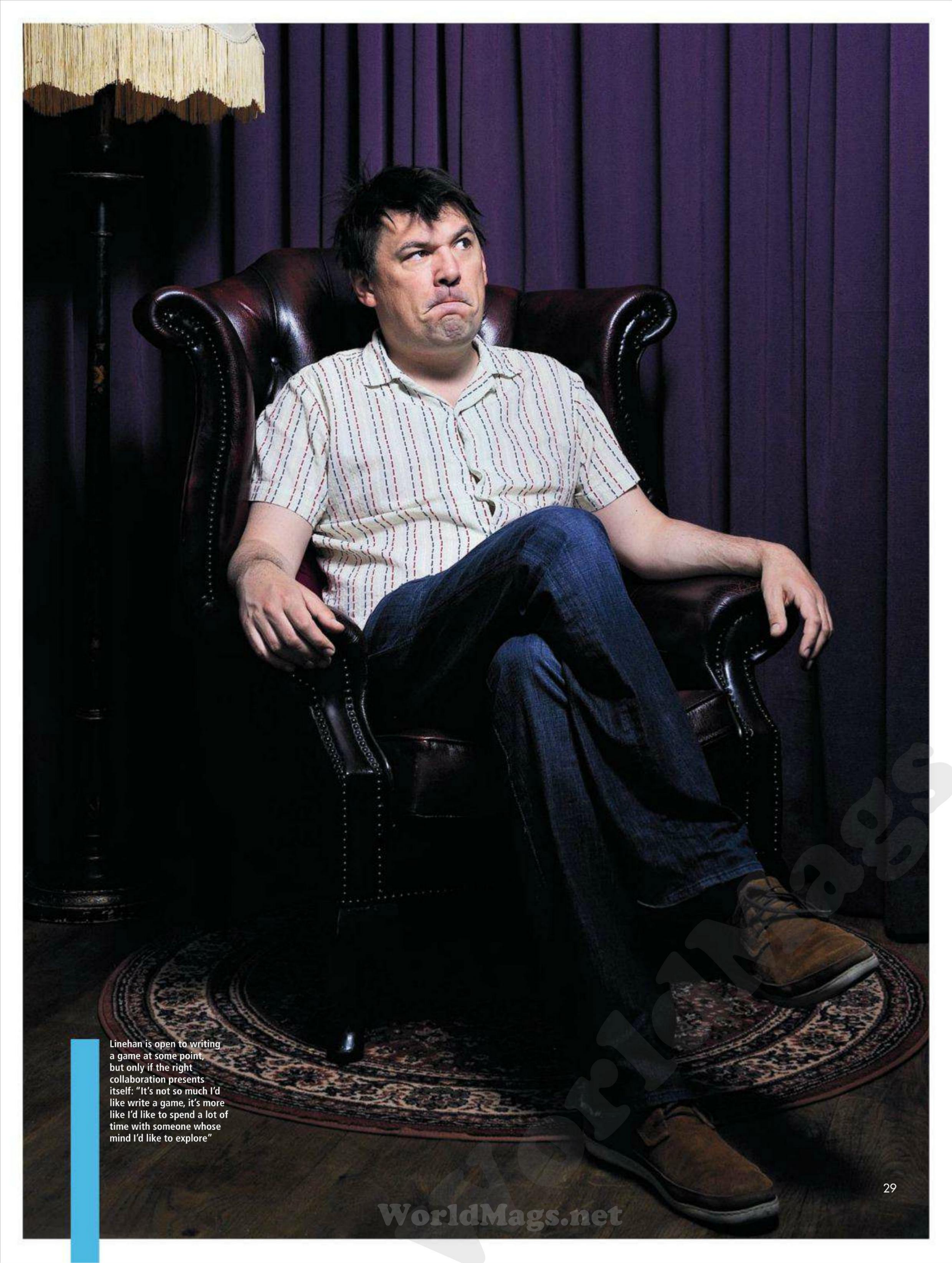
How does a game like *Battlefield 3* tally with your pacifist beliefs?
A friend on Twitter said he worked at a games company that produced a firstperson shooter of some sort, and he worked there when the second Iraq war started. Somebody came into the office and said, 'We're going to be rich!' That put me off those kind of scumbag, racist games. But the thing that's really clever about the campaign mode in *Battlefield 3* is that you're following behind two of your squad, and one of them is kind of coming out with all this liberal, hippie-dippie stuff, and kind of being a bit ignorant about the whole reason they're there. When I sense there's intelligence behind the game, or when I sense the writer has actually done some research, then I feel completely OK about playing until 3am.

> "I realised that bringing a writer in at a late stage is almost the same as not bringing in a writer at all"

How do you feel about the current state of writing in games?
I've suffered from confusion around what the role of a writer in a game is. I was brought on at a very late stage to *LittleBigPlanet 2*, and I did a little bit of script editing on that and offered some suggestions. But the thing I realised – and I think [Media Molecule] realised as well – is that bringing a writer in at a late stage is almost the same as not bringing in a writer at all. The writer has to be involved at a core level. It can't be just a case of coming in and doing punch-up to the dialogue. Because sometimes the story is so strange and odd and unintelligible that it's just impossible, and what you get is the kind of default mode of wisecracks that is familiar to people who watch really bad children's TV. You know that kind of children's TV that's aimed more at adults than children? That's the kind of writing you get a lot. But there are hundreds of games where the writer's been brought on early on, and it shows – *Enslaved*, for example.

What was it like being able to feed videogames into The IT Crowd?
Something like Moss playing a flight sim in the park [is] really more just a punchline, as opposed to anything serious. It was important that the references in The IT Crowd never alienated the wider public. So if there were geeky jokes, they were kind of pepper, or a background hum for the people who were in the know to enjoy, while in the foreground it was a more universal story.

What's your favourite game of all time?
The game that makes me sigh in really deep nostalgic affection and even love is *The Legend Of Zelda: Majora's Mask*. It's just one of those games that kept taking my breath away. The art style was really appealing. And it did something a great film or great book does: it creates all these mysteries in the first few hours of gameplay. It was like unwrapping a wonderful present. A present made out of presents. I guess I've been looking for a similar experience ever since. ■



Linehan is open to writing a game at some point, but only if the right collaboration presents itself: "It's not so much I'd like write a game, it's more like I'd like to spend a lot of time with someone whose mind I'd like to explore"

WEBSITE
Fangamer
www.fangamer.net
If our Nostalgia feature on p80 has you hankering for videogame merchandise, you might soon find that it can be a minefield of bad taste, from poorly fitted T-shirts to clichéd designs that neither do justice to your favourite game nor aid your social reputation. Step in Fangamer. Under its faintly bland, blog-like presentation lies an online gold mine of beautiful and original art-led videogame goodies, including bags, badges, cards and even coffee table books. For an idea of what to expect, it's officially affiliated with **Edge**-favourite artist Zac Gorman – as such, Fangamer's showpieces are limited edition posters of his work. It also offers 'combos', themed bundles that collect some of the collection's highlights into hamper-style offerings that make a great gift for the gaming obsessive in your life.



VIDEO
Five Years Of The Blip Festival
www.bit.ly/KVobJ3
To celebrate the fifth year of the New York-based chiptune festival, 2 Player Productions – the Portland-based production team responsible for Double Fine Productions' Kickstarter documentary – has created a 10-minute video about the event. Involving pushing '80s and '90s audio hardware to its limits, The Blip Festival is legendary for its live sets – if you don't know Starscream from Bit Shifter, watch and learn. Inspired to go? We're afraid you've missed this year's, held in late May. So see you next year?

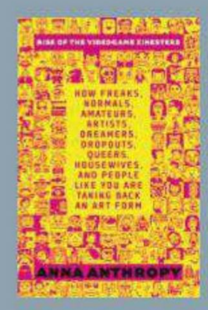
WEB GAME
Dude, Where's My Planet?
www.bit.ly/KKT14q
Ludum Dare 72-hour game jams are always fine sources of new browser games, and this, its 23rd instalment, has been no different. A particular treat is *Dude, Where's My Planet?* Your objective is to get your little rainmac-wearing character back home by slingshotting him from planet to planet on a gorgeous and surreal pastel-washed 2D plane. Pick up enough speed by running around your current planet with the arrow keys and he'll break its gravitational pull and speed out into the clouds, hopefully into the embrace of another. Dangers litter the levels, adding a light layer of strategy, and you complete stages by finding a cannon that blasts you to the next one. But this is a game less concerned with complexity than the thrilling release of freedom and the pull of home.



THIS MONTH ON EDGE

A scattering of flotsam that tugged at our attention during the production of **E**242

BOOK
Rise Of The Videogame Zinesters, Seven Stories Press
Game designer and critic Anna Anthropy might be as well known for her attacks on the game industry as her high-concept web games, but her first book, subtitled 'How Freaks, Normals, Amateurs, Artists, Dreamers, Queers, Housewives And People Like You Are Taking Back An Artform' is no diatribe. Persuasively arguing the technological barriers to a player-generated videogame counterculture are no more, Anthropy also explains just why such a counterculture is needed. At times, she can focus on the demographic makeup of developers to the detriment of critiquing the games themselves, but it's hard not to feel radicalised, too.



continue

Kickstarter
More games achieve major funding – let's all go independent!

DayZ zombie survival MMOG
Rely on mods to realise the best nerd dreams

Lego Of Zelda
Come on, Nintendo!

Mining on the sofa
Four friends crafting together is the only way to play

quit

Dev pressure
With 38 Studios almost insolvent, what's the price of independence?

Online singleplayer
Blizzard shoves us into a future of error codes

Union Jack 360
Who is this for, exactly?

Big name delays
Tomb Raider, *BioShock Infinite*, *Aliens* – what's so scary about autumn?

TWEETS
I read books the way most people play video games: 15 minutes at a time, never get past the halfway point
Steve Gaynor @fullbright
Co-founder of the Fullbright Company

I wonder what Error 1 is, then. It's probably "SHIT FORGOT TO MAKE#DIABLO3. Keep them busy with an Error 37 while we knock something out."
Dan Marshall @danthat
Indie game developer

In 2011 my famous/infamous line was that we are are all Gamers. In 2012 its that we're all Game Developers. Time will tell...
Hal Halpin @HalHalpin
President of Entertainment Consumers Association

Asked David Cameron today what his top score is on *Fruit Ninja*. Have rarely seen a man look so shifty. Eventually, he replied: "Pass."
James Kirkup @jameskirkup
Telegraph deputy political editor



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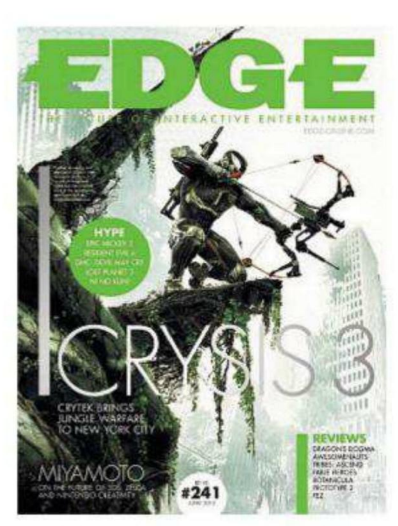


DISPATCHES
JULY

Within Dispatches this issue, Dialogue sees **Edge** readers give their views on defining videogames and whether they are finally art, the difficulties of staying true to an original when making sequels, and lamenting the death of 480p for the coming standard of 720p-plus titles. Then in Perspective, **Steven Poole** describes his voyage with *Journey*, **Leigh Alexander** looks forward to the new era of adventure games, and **Brian Howe** imagines what Nintendo's Shigeru Miyamoto might have got up to on a brief sojourn away from the office.



www.next-gen.biz/forum
Discuss gaming topics with fellow **Edge** readers



Issue 241

Dialogue

Send your views to edge@futurenet.com, using 'Dialogue' as the subject. Our letter of the month wins a 3DS



The new wave

Reading your article about the brave new world of non-action games (**E**240) was really interesting. (By the way, I'd call them this not so much because they don't feature a lot of action, but more because they subvert some of the stale conventions of modern gaming – especially action games.)

You say videogames are now becoming hard to define, but to me it still seems fairly straightforward. Games, like all media, are looking to engage, entertain, tell stories and elicit emotion – to be art, in short. Within that field, it just comes down to a difference in delivery: novels are words on a page, films are moving pictures, and videogames are interactive virtual experiences.

Where the difficulty lies is in deciding what interactive virtual experiences are art (such as videogames) and what aren't (navigating your way through Ceefax). But then, the written word and the moving picture and all the other media under the sun have exactly this problem too.

Still, 'interactive virtual experience' seems an incredibly broad definition. Of course, a large reason for this is because, as your article points out, only a small corner of its possible space has been mined. For example, we are still struggling to get away from the need to always have something to fight/avoid in videogames.

So I'm happy that games such as *Journey* are being released and are receiving coverage – and perhaps this means we will start to see more non-action games. Narrative titles in the vein of *Dear Esther* that don't feel the need to challenge the player in order to engage them; creativity games akin to *Minecraft*; games that are just a series of thought-provoking 'what if?' choices played out in the safety of a virtual environment, such as *Peacemaker*. And in among all this heady newness, I'm sure there'll still be space for games that involve shooting aliens in the face or jumping on the heads of Goombas. All in all, the future certainly looks bright!
Tom Laverac

Among all this is an increasing need to define what games actually are, a topic that Tadhg Kelly discussed in his column in **E**241. There is indeed room for all sorts of interactive experiences, but as the space expands, so does the need to more precisely understand what these new forms of media are trying to achieve, and how well they do it. Which sounds like fun.

The renewed wave

Dead Rising 2, *Crackdown 2*, *Fable III*, *Prototype 2*, *Fight Night Round 4* and *FN Champion* – these are all bad sequels that share one all-encompassing sickness: they are sequels of games whose most successful attributes have been misidentified, their most successful control/animation marriages ravaged by mistrust and affairs with other combinations.

Whether it's *Prototype 2*'s jump/wall run, or *Fight Night*'s punching, the established and effective input/animation relationships that made sense are done away with in favour of an imaginary quest for the golden calf – streamlined controls. These games took the rock-solid foundation of their predecessors, and wove straw huts with no walls on top of them to allow the free flow of people in and out of them. In *Prototype*, you tap A to hop, and hold it to build what intuitively translates into potential energy, both with your thumb and your game character. Only upon releasing that potential energy – by letting go of the A button – does that energy turn kinetic in-game, with your character coming off a building as your thumb comes off the button. There is a vast multiplication effect as the kinetic movement of the thumb is instantly transformed into a 300ft leap. It makes perfect sense. It's intuitive. *Prototype 2*… Errr, have you played it?

Never mind the other games I listed – *Prototype 2*'s jumping alone is enough of a travesty. The follow-through animations are completely lacking, they happen too quickly and the keyframes don't go nearly far enough, the top of the jump doesn't have enough frames and there are too many in the rest of the jump animation…

This stuff wouldn't taste so bitter if the previous game wasn't there to illustrate the very things that made it so successful. How about the remake of *Golden Axe* not having onscreen co-op? Isn't anybody else tired of playing sequels that completely miss the point? I know that everyone wants games to be movies – ignoring the fact that they are two different mediums – but there are ways of going about it other than ruining sequels.

On a non-sequel note: *Dragon's Dogma* scares me for different reasons. It feels good to hit someone with a sword – which is literally the only thing that matters in a game about hitting things with a sword. But it only feels good if you can reach an enemy before your NPC friends kill it. Let's say you do get near enough to hit someone, you have about a 50/50 chance of connecting through the blizzard of white text flashing on the screen from your friends talking over each other. I hope for the game's sake that you can turn HUD elements off in the full version. If you can't, *Dragon's Dogma* will fail too, and I'm guessing nobody will know why.
Jim Hering

It takes talent to iterate well, but the pressures to make games more accessible to new players will always fall heavily on developers' shoulders. And why not? What works for a few people doesn't necessarily ring true for more – balancing the expectations of both groups, along with injecting their own creative vision, is what makes the best developers stand out.

Art Nouveau

I think the gaming community's claims that games are art can now surely be considered valid. After playing through *Journey* twice, I felt the same emotions one would feel perusing a collection of a grand masters' work: curiosity, disbelief, excitement, disappointment, wonderment and, most importantly, interpretation.

Art is about what it means to you and how you interpret it. Surely gaming is the perfect medium for this: imagine a Madonna And Child where you could add to Michelangelo's chisel marks; putting your own melting timepieces into Dali's The Persistence Of Memory; or adding your own melody to Holst's The Planets. You can't. But you can create meaningful things in games, all the way from *SimCity* to *LittleBigPlanet*.

Gaming brings together three classic artforms – visual, musical and sculptural – enabling the audience to alter, interact and interpret other people's creations in a way that's unique to the medium, and it's about time the rest of the entertainment world gave gaming the respect that it deserves.
Phil Thomas

If we're finding personal joy and inspiration in them, why should games still require respect from the wider world?



Dragon's Dogma **has an exciting heritage, but Jim Hering is concerned about being able to see it properly**

Define print

In reference to Tadhg Kelly's column (**E**241) about defining what a game is, I feel as if something quite simple is being made unnecessarily complicated. There are two things the definition needs. First is the interaction between the person in front of the screen and the things happening on it – no other media has that same entertainment-oriented interactivity. The fact that the person in front of the screen (with *Dear Esther* in mind, I'm avoiding the word 'player') has to act for something to happen onscreen is what makes it a game.

Second, there needs to be an emphasis on the experience of gaming. The combination – or lack – of competition, empathy, teamwork, nostalgia, delight, shock, sorrow, philosophical speculation, visual and/or aural wonderment, and just plain old fun is what games are. Of course, not every game will fulfil all of those criteria, but at least one or two will hold true.

"I feel as if something quite simple is being made unnecessarily complicated"

I agree that the comic book/graphic novel paradigm could be applied here, but I still put both of those under the title 'comics', because that's what they are. Regardless of the labels we might come up with to differentiate between the different types of experience we have with different types of games, they are all games. Someone creates them, we interact with them, and somewhere in there our experience and their desired experience intersect. See? It's not that complicated at all.
Kadeem Beresford-James

Resolution song

With the passing of the Wii comes the passing of 480p. It's a resolution displayed patchily on home TVs (tubes and panels), and even those beautiful Naomi VGA arcade monitors are now fading. So why celebrate a defunct scan frequency? Because a whole generation of games – from *Guilty Gear X*, *Zero Gunner 2* and *JSR* to *Gradius V* and *Ninja Gaiden* – haven't just looked bright, detailed and flicker-free, they've looked 'at home' in their medium. For a decade, it's helped even smaller teams create games with the bold, busy aesthetic of, say, *Sin And Punishment 2* or *Mario Galaxy*.

This current generation (720p-plus) has some visual classics too (many in 2D, still too few from Japan), and it will surely be viewed more fondly than the low-res polygons of the mid-'90s. But with realtime photorealism further away than ever, too many vistas still feel 'empty' in HD – as early PC VGA games did. The GPU, staff and imaginative resources required to fill all that pixel real estate can make new content feel stretched (and remakes diluted). Extra clarity accentuates both the static and the flat attributes of the modern screen.
Matthew Stedman

We remember the pain of seeing *Resident Evil 4*'s PC port, which pitilessly up-rezed the GameCube original. The game never looked so horrifying. How do you feel about 400p, Matthew? Because that's the resolution you'll enjoy on your new 3DS.

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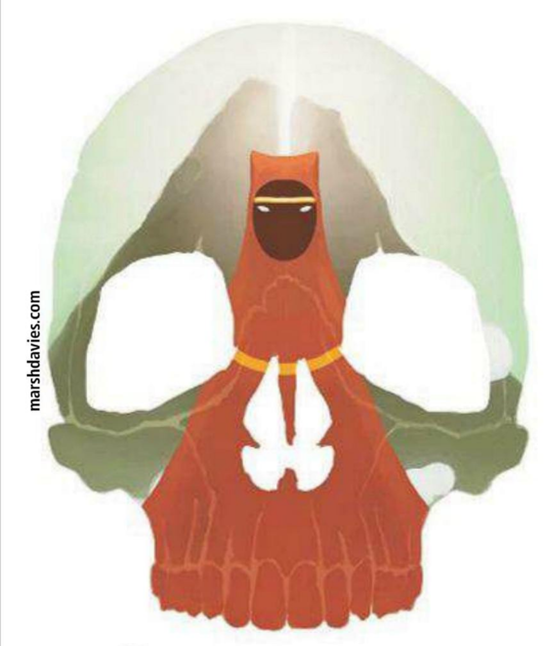
Is Vita's biggest drawback Sony itself?

There just doesn't seem to be much in the way of 'must have' software for the Vita. The 3DS had the same problem and sat on my shelf for a few months. When the better titles come and the price drops a little, the sales will spike.
Ryan Catatafish McDonagh, Facebook

I love my Vita, but I thought Sony would include in the PSN Store a Vita App Store with low-price games, normal smartphone games, indie games. That was my target... having those games as well AAA games (overpriced). I have *Uncharted*, but the rest of the games I have on the system are *MotorStorm RC*, *Escape Plan* and *Tales From Space*, all of these low-price software and awesome replay value...
Armando Sousa, Facebook

Technologically brilliant, as always... just overpriced and not-quite-worth-buying games. Same old story. I didn't buy a PS3 until it was about two years old simply because up until then it was underdeveloped. And now I don't play it AT ALL.
Thomas C Jones, Facebook

I got a PS3 and PSP when they dropped and regretted it. Great pieces of kit eventually, but there just wasn't enough quality games to play. Same here, and unlike those times I'm gonna sit still and wait for the PSV to have a bit more legs/gets cheaper, but in the long run it'll be fine.
Steven King, Facebook



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STEVEN POOLE

Trigger Happy

Even Journey's cop-out ending can't fully neuter its thought-provoking design. Warning: spoilers ahead

As my steps slowed in the deep, crusted snow and the icy wind, I could see what was coming. The prophecy on the pixel-tapestry cyclorama had been true. Each step took longer and was more agonising, as though my entire body was freezing solid. Eventually, I collapsed. The screen faded to white, and I thought, 'This is the best ending of any videogame ever.' The game told you exactly what was coming, and fulfils that promise with a brutal purity. It is a fond yet unyielding comment on the simplistic quest-triumph narrative of nearly every other videogame, and a memento mori demonstrating that all lives, whatever joys they contain, end the same way. It is *Passage* writ large on a HD canvas. And then my glowing white spirit-mother, or whoever she was, appeared to me, and I realised with a horrible sinking feeling that the game wasn't over after all. The truth is that *Journey* doesn't know when to stop.

Journey's very title evokes the old saw about how it's not the destination that matters, but how you get there, yet the game refuses to end where its own logic dictates. It's no excuse to interpret the final act as a dying hallucination rather than a literal resurrection. (The system notification of a trophy called 'Rebirth', whatever its intended sense, is just horribly crass, an irruption of the lurid badge-points-prizes-peacocking aspect of games that thatgamecompany makes such impressive efforts to suppress throughout its oeuvre.) The very fact that the game is so archly ambiguous about the ontological status of your character after the freezing scene merely demonstrates its desperation to have its cake and eat it too. *Journey* wants to wring as much pathos as possible out of the freezing scene, but then give us a happy ending as well, but then make us suspect that the happy ending was an illusion, while hoping that it wasn't, etcetera ad infinitum. It's a cop out.

I am harping on about my disappointment that *Journey* fails to have the courage of its convictions only because the game is, after a slow beginning of annoying fabric-based tasks, otherwise so astonishingly beautiful and intelligent, as well as blissfully concise. The virtue it makes of its deliberately limited online component is a superb riposte to the current unthinking desperation to make everything 'social' in a Twitface sense. (I recently read an article wondering how we could make books 'more social'. Seriously, shut up: books have always been social.) And perhaps the most interesting aspect of *Journey*'s reception has been the sheer quantity of writing it has inspired, thus refuting again the mainstream prejudice that games and literacy are opposed.

> It's an exquisitely tuned purification of the striving-upwards motif of platform games through the ages

Journey's ending is particularly inapt because it has otherwise internalised so well the journey-not-destination principle; the whole game is a demonstrative thesis on the aesthetics of motion design. It's tough to wish the last act away, after all, because it's so joyous – a liberated summation in winter sports sunshine of the game's highly focused mechanic and reward system. *Journey*'s repeated challenge throughout is 'gain altitude', and the gaining of altitude through its viscous, near-liquid air (you part-swim, part-fly; there are jellyfish) is its own delirious payoff. It is an exquisitely tuned purification of the striving-upwards motif of platform games through the ages. *Journey*'s developers obviously noticed the freedom and happiness you suddenly feel as Mario when you break up into the clouds, jumping on cotton wool platforms in a clear blue sky. Perhaps there is a germ here, too, of the altitude-as-power topos, as exemplified by the eldritch old puzzle game, *The Sentinel*.

Movement along or near the ground has been equally carefully engineered. Even at the game's start, walking through sand is not the exhausting trudge it is in real life: you always keep up a spry momentum, perhaps helped by those pointy legs. Later on, *Journey* nonchalantly recreates the rush of a good snowboarding game, as well as a kind of slalom-happy sand-skiing. The moment when the camera swings round to a side-on view as you hurtle through an ancient stone arcade, the better to show off the giant setting sun and the bird-like flocks of friendly fabric scraps wheeling in the sky, was for me the game's most breathtaking coup de théâtre.

All this movement is accomplished through beautiful spaces, expertly invoking the sense of aesthetic wonder I've long argued is central to games. Here, the opaquely grandiose architecture, sunk in the Tatooine sands, seems a remnant of some incomprehensible ancient civilization, while the underground section (patrolled by squids from The Matrix recast in articulated stone) magically invokes awed fear without the annoying threat of game interruption through temporary death. Critics who complain that *Journey* isn't more of a traditional free exploration experience have missed the point: even the on-rails sections (reminiscent of *Sonic* or a meditative *Space Harrier*) are thematically appropriate. Your life keeps on going by, after all, even if you don't want it to, heading towards an ambiguous Mount Doom. And as mine does, I will from now on feel a strange tenderness whenever I look at a rug.

Steven Poole is the author of Trigger Happy: The Inner Life Of Videogames. Visit him online at www.stevenpoole.net



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LEIGH ALEXANDER

Level Head

Adventure games are due a revival soon, but what lessons can we learn from their growing pains?

Maybe I've been suffering light fatigue of the modern triple-A game market, as is somewhat routine when distant temporal rumbles start to foretell the annual E3 avalanche. Whatever the cause may be, I've spent recent weeks curled up in a nest of old games, swaddled in an inexplicable fixation on precisely the era of gaming that put loads of people off the pastime altogether. I mean, of course, the late-stage adventure games – the ones with graphics and stories that get more elaborate as the gameplay becomes more leaden, until you're wondering why they didn't just force you to watch the low-budget film they'd envisioned instead of making you pixel hunt for the things to click to advance it.

Storytellers felt that with more realism, they could make their games more adult, more respectable, and more immersive. However, the result was that oft-lamented and short-lived 'live-action' phase, with C-grade actors standing around like robots awaiting input, and hard drives made to chug through video of someone opening and walking through the door you'd just clicked on. Every time.

Maybe it's sentimentality, but I can't call them 'bad', not exactly. These games were adolescent, and so was I when I played them; I have a fondness for that most awkward of growing pains. When I was a kid, Sierra's *Phantasmagoria* games kept me up at night and so, no matter how silly they look to me now, I can't help but be just a bit scared of them occasionally. Don't tell anyone.

Ahem. Anyway, most people who work in games undergo frequent nostalgia trips, and with good reason: it takes an exceptional degree of dedication to the field to endure the long hours, frequent disappointments, the early years of powerlessness and compromise, and all of that stuff it generally costs to write about or develop videogames.

Very few make it through all that without having had a deep love for the medium instilled within them at an early age – nothing less than those pure memories of discovery and joy could sustain us. Often, I think most of us work so hard because we're trying to love games again the way we did when we were kids.

> The adventure genre never really 'died' – it's just been waiting for a new opportunity

This time, though, I might chalk my latest nostalgia trip up to a trend I'm seeing in the current business climate: adventure games are coming back, at least after a fashion. A happy combination of new, lite mobile and social platforms and targeted crowdfunding means that traditional adventure game designers have more opportunity than ever to do what they love – addressing all of those fans who've wished over the years to see the genre return.

Though the big player in the field is Double Fine's much-anticipated Kickstarter project, Tim Schafer's contemporaries, such as Jane Jensen, Al Lowe and *Space Quest*'s Two Guys From Andromeda, are looking at ways to either revisit old brands or make new entries in today's favourable climate. I remember trying to play Jordan Mechner's *The Last Express* as a kid and failing because my computer wasn't quite stable enough. Now that game's about to come out on my iPhone, where I can revisit it with one fingertip. What an age we're in!

Mechner and I spoke recently following a talk he gave at New York University, and I asked him about this revisiting of old game forms. He told me he finds the idea of evolution in games somewhat misleading, since older forms never actually cease to exist, their breadth just shifts based on the scope of a given era's platforms or audience. Viewed that way, the adventure genre never really 'died' – it's just been waiting for a new opportunity.

When I last talked to Schafer, he also said the state of adventure gaming was much more complicated than living or dead. On the heels of his recent success, though, he reflected on the importance of taking advantage of modern design innovation, known best practices, and audience preferences. Rather than make a rank and file retro throwback, what would an adventure game rooted in problem-solving, story and humour look like today?

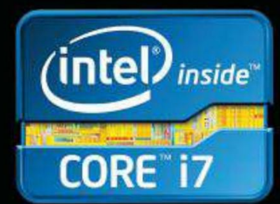
That's a fresh perspective for an industry obsessed with 'recapturing' something we've supposedly lost with the march of time. Some of the most popular indie games have a 'retro' look, or use older design vocabulary as a point of reference for subversion.

That weird live-action phase I've been revisiting was mainly a step in the wrong direction for games, which at that time moved forward under the assumption that they had to resemble more familiar media to be viewed seriously. It's only over the last decade that a sensible idea has become the prevailing wisdom: the most valuable games do things only games can do.

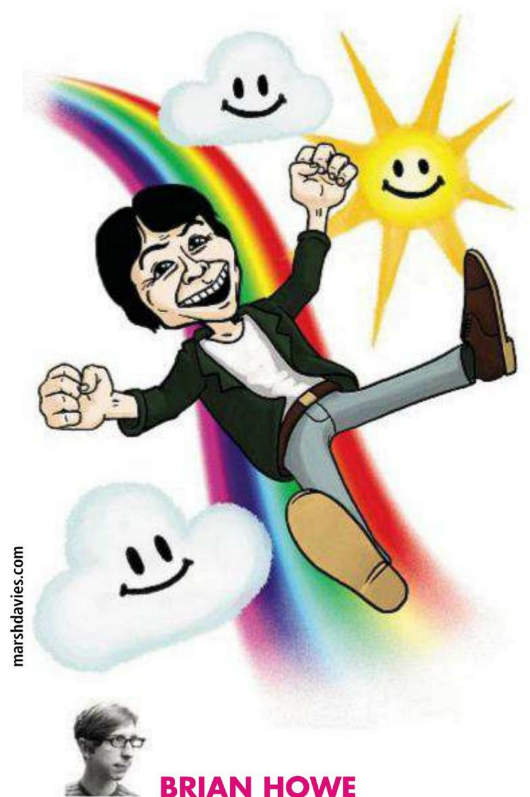
But that's a natural arc of self-discovery for any medium. Maybe creators had to push in an unnatural direction to learn what about games was innate and what was artificial – like adolescents imitating adults in order to find out who they want to become.

While fans might be hoping for their beloved familiar creators to resurrect their childhood memories, it's more exciting to me to see what those creators have learned over the years, and how they might use those lessons to present cerebral, charming adventure games in brand new ways.

Leigh Alexander is a widely published writer on the business, design and culture of videogames and social media



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BRIAN HOWE

You're Playing It Wrong

In late 2011, Shigeru Miyamoto retired for just one week. Here's what he got up to without Nintendo

On the first day of his brief retirement, Shigeru Miyamoto picked up his ringing alarm clock and shook it every which way until it finally shut off. After decades of tirelessly toiling in virtual fantasy lands for Nintendo, he was excited at the prospect of getting back in touch with everyday life. He sat up on the edge of his Arwing-themed novelty bed, yawned and stretched his arms, which triggered an array of motion sensors that caused a Robotic Operating Buddy to begin frying an egg on a heated gyroscope.

After scraping his breakfast off the walls, Miyamoto sallied forth with the intention of exploring some nearby forests and caves, which had brought him so much pleasure in his youth. However, he was diverted by a vivid rainbow outside his door. Grabbing its base like the trunk of a tree, he shinnied up until the curve began to level out. With a gleeful "Yahoo!" he went sliding along the rainbow, which turned into a twisting musical stave, the notes chiming under his stockinged feet. The yellow sun smiled in the blue sky.

Miyamoto sprang off a fluffy white cloud, executed a flawless aerial somersault, and then gently landed in a crowded public square, laughing and exhilarated. But his elation turned to alarm when he noticed a turtle toddling by. Naturally, Miyamoto leapt high into the air and landed on its shell with both feet. Strangely, this incited unmasked horror rather than gratitude in passers-by. This unpleasant incident threatened to tarnish an otherwise sterling day, but Miyamoto felt much better after gathering one hundred coins from the square's fountain.

On the second day of his brief retirement, Miyamoto had a vision: he would duct tape two alarm clocks together and call it the 'Punii'. Bursting with inspiration, he quickly changed out of his Luigi footed pyjamas and put on a slick dark suit. Then he took his private zip line down to the garage. Near-disaster struck when, on the way to visit his R&D team, his Excitebike hit a divot, spilling him end over end. He wasn't hurt, although it seemed to take him an incredibly long time to run back to the bike. Disoriented, he rode aimlessly through the streets until he spotted an open manhole. Reasoning that it might warp him closer to the R&D lab, he jumped in. Poor Miyamoto! It turned out to be the slowest, foulest warp zone he had ever seen.

On the third day of his brief retirement, Miyamoto slept in, having been lost in the sewers until quite late the night before. Still, he woke up full of energy and good cheer, vigorously scrubbing his forefinger over his teeth, which caused a virtual toothbrush to clean a set of virtual teeth on a nearby screen. Then, on a whim, he put on his favourite pogo shoes and pogoed over to the go-kart course. He had a marvellous time there until a surly teenaged attendant kicked him out for throwing banana peels onto the track, which was making the other drivers anxious – none of whom, Miyamoto noted with some surprise, were giant reptiles or fungi.

On the fourth day of his brief retirement, Miyamoto returned to work on the Punii with fresh vigour. He designed a slider that would give the user complete control over the severity of the vertigo induced by the device. He conceptualised peripherals such as the Punii Wakeboard, the Punii Waffle Iron, the Punii Ultrasound Wand, and the Punii Biometric Feedback Zumba Leotard. He composed a speculative tutorial: "Get ready to press the button. Are you ready to press the button? Press the button... Now! Hey, great, you pressed the button. Get ready to press it again!" He worried that it wasn't clear enough yet, but it would do for a first draft. Satisfied with the day's innovation, he promptly began to snore in his chair, soft and high and even, making a little forelock of hair float up and down, up and down.

On the fifth day of his brief retirement, Miyamoto decided that he would simply go to the park. He knew it was dangerous to go alone, so he blew a special whistle and was whisked off by the Whirlwind. (The Whirlwind is the name of Miyamoto's chauffeured motorcar.) At the park, he spent a while burning bushes with a candle, seeing if there were any stairs under them, until the local gendarmes engaged him in a merry chase. They shouted and shook their fists in jest as Miyamoto sped away in his Whirlwind, the park smoldering with adventure and flames in his wake.

At the park, he spent a while burning bushes with a candle to see if there were stairs under them

On the sixth day of his brief retirement, Miyamoto resolved that the Punii would be covered with touchscreens on every surface so that it would be the first device in the world that could not even be touched without doing something. Whatever it did, it would be usable by everybody – except ghosts, Miyamoto realised grimly. He began to furiously chalk equations for phantasmagorical touchscreens onto the walls. But, alas, the Punii would never come to fruition, for on the seventh day Nintendo's stock prices fell, and it turned out that the rumours of Miyamoto's retirement had been greatly exaggerated.

Brian Howe writes about books, games and more. If it isn't obvious, he also idolises Miyamoto's creative outpourings



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THE GAMES IN OUR SIGHTS THIS MONTH

Creative tension

The Elder Scrolls and *God Of War* series are built on hero complexes. In Bethesda's singleplayer epics, you're a god among NPCs, a prophesied champion around whom the world revolves. *God Of War* is less interested in self-expression than Bethesda's games, but it's an equally individualistic experience, forcing you embody Kratos as he embarks upon his bloodily furious quests for revenge. It's a bold move, therefore, to translate these series to the online world – one that risks betraying the spirit of both for the sake of a longterm revenue stream in Bethesda's case, and an extra feature to boast about in the case of *God of War: Ascension*'s (p66) multiplayer mode.

The Elder Scrolls Online (p48) is partly tackling the issue by leaving space for the solo adventurer, but also creating places and challenges that could be easier with a little help from friends. Its also wound Tamriel's clock back a thousand years, telling an epic, continent-spanning war story that couldn't really be done justice in a singeplayer game. *God Of War: Ascension*, meanwhile, innovates with its action-game moves list wedded to a cooperative attacks system that makes teamwork key to the kill, and offers classic *God Of War* kill animations made extra bloody thanks to the presence of a few extra pairs of blade-wielding hands.

The question is whether audiences used to the nurturing bosom of experiences crafted entirely for them – for their lone wandering and single-minded destruction – will take to sharing the thrills and XP with fellow adventurers and fighters. Ultimately, *God Of War: Ascension*'s success will only partly hinge on its multiplayer, but *The Elder Scrolls Online* team faces a stiffer challenge. As a series built on making players the centre of its universe, it will now have to convince them that it's worth sacrificing the immersion of a world built solely for them in exchange for the humbling thrill of a grander experience of which they're only one part.

MOST WANTED

007 Legends PS3, 360
Eurocom builds on the thrills of its *Goldeneye* revamp with *Legends*. Taking five classic films plus the upcoming *Skyfall* as its basis, *Legends* has an amnesiac Bond recalling past adventures and adversaries. Vehicles and melee combat are on the cards this time too.

Dreadline PC
Developer Eerie Canal has been set up to tackle titles big publishers wouldn't touch. Its first production, *Dreadline*, piqued our interest with a trailer that revels in its schlocky bad-taste premise: you control a group of monsters travelling through time "visiting calamities to kill the doomed".

Devil's Third PC, PS3, 360
THQ is in talks to offload Tomonobu Itagaki's action-shooter, so here's hoping the turbulence mid-development doesn't affect the king of katanas' vision. Itagaki's return, with a title focused on multiplayer thrills, can't come soon enough.

Character models are detailed, but armour elements help with silhouetting. This is crucial given *The Elder Scrolls Online* reserves a full region for player vs player combat, where reading a busy fight may well mean the difference between victory and defeat



HYPE

THE ELDER SCROLLS ONLINE

Tamriel prepares for the hordes as the series quests into MMOG territory

Publisher	Bethesda Softworks
Developer	ZeniMax Online
Format	PC, Mac
Origin	US
Release	2013

Mobs have signature behaviours, such as special skills and attacks, which make them easier to fight. Chain successful counters together to fill your Finesse bar and earn extra rewards

Rich, lore-filled questlines; a world map freckled with famous names and beloved landmarks; and an IP still basking in the glory of yet another multimillion-selling instalment: it says a lot about the terrifying reality of the contemporary MMOG scene that any of this sounds like a risk.

But it does – an exhilarating risk that's been energising the staff of ZeniMax Online during five years of secret development. Its project, *The Elder Scrolls Online,* doesn't only represent the first time the gates of Tamriel will be flung open for players to pour through en masse, it's also the first time a mass-market videogame IP with a rich lore built over a series of titles will challenge *World Of Warcraft* on its own thematic turf. BioWare may have copied the template, but it raced in the opposite direction when it came to setting, heading into the comforting embrace of a galaxy far, far away – and it still lost 400,000 subscribers after a few short months. Sony, meanwhile, went to DC's comics for its lore, and quickly had to turn free-to-play. So perhaps only Bethesda has the clout, the vigour, and the self-belief to go up against Blizzard in the fantasy genre.

Then again, only Bethesda has *The Elder Scrolls*, a series whose mixture of exploration, customisation and world-building has made it the rare kind of monster that other games get out of the way of. There's a complication, though: *The Elder Scrolls* is traditionally about a lone hero saving the world single-handedly, which is at odds with MMOG convention.

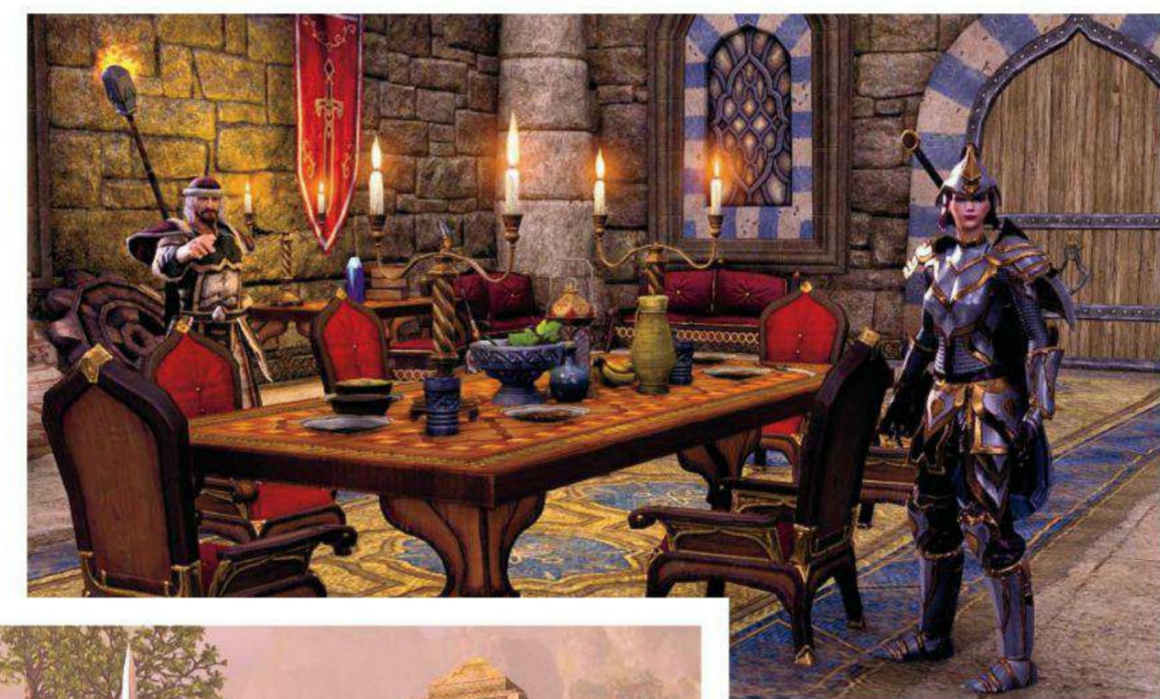
MMOGs are all about community, at least to hear **Matt Firor**, *The Elder Scrolls Online*'s game director, describe them. "Community is the biggest part," he announces, sounding like a commander describing the hostile territory his team must capture. "You get into a game based on the IP, but you stay with it because of the people you're playing with. Endless gameplay – that's another MMOG hallmark. Continual content updates. When you put that together with the IP, you get *Elder Scrolls With Friends*. How does that work?"

It works a lot like you'd expect. *The Elder Scrolls Online*'s Tamriel should deliver only the mildest of shocks to veterans of Skyrim, and almost none to residents of Azeroth. The story may wind the clock back 1,000 years, fleeing the world's fourth and third eras for the more pliable timeline of the second, but it focuses on familiar races and locations, with a weak Cyrodilic Empire leading to the rise of three alliances, all fighting for power. There's the Daggerfall Covenant from High Rock and Wayrest, which is made up of Bretons, Redguards and Orcs seeking to rebuild the world in an egalitarian, almost democratic





THE ELDER SCROLLS ONLINE



RIGHT **Alongside player guilds, you're able to join traditional *Elder Scrolls* guilds, which will give you specific objectives. Stick with them to get guild-specific quests and perks**





design. Then there's the Ebonheart Pact, spread across the lands of Morrowind, Skyrim and Argonia, and formed by the Dunmer, the Nords, and Argonians – an uneasy alliance of enemies. Finally, there's the Aldmeri Dominion, hailing from parts of Elsweyr, Valenwood, and the Summerset Isles, which sees the High Elves, Wood Elves and Khajiit united behind a philosophy Firor summarises as, "Get out of our way or we'll kill you."

You can sense Bethesda's confidence in the lore of these groups and their bold resistance to pigeonholing, even if existing backstory makes some of these team-ups unlikely. Whichever alliance the player joins (and with each group limited to wandering their quarter of the continent, it's as much a geographical choice as a political one) the backbone of the game lies with an instanced singleplayer campaign in which lone heroes save the world in familiar *Elder Scrolls* style. Along they way, they'll fight against the other alliances and the weakened Cyrodiil, which has made an unfortunate partner in a Daedric Prince, Molag Bal, and his undead army. "It's solo: your content, your story," says Firor, so used to discussing the game internally, perhaps, that his pronouncements have been worn down to the most economical of fragments. "All alone. No groups. If you're going to save the world, do it by yourself."

That's only half the fun, though, and the other half plays out in traditional MMOG style, with huge instanced raid dungeons waiting for anyone who nears level 50, and player vs player (PvP) combat. It's the latter part, unsurprisingly, that has got Firor and his team really thinking about community, and the social engineering necessary to create one.

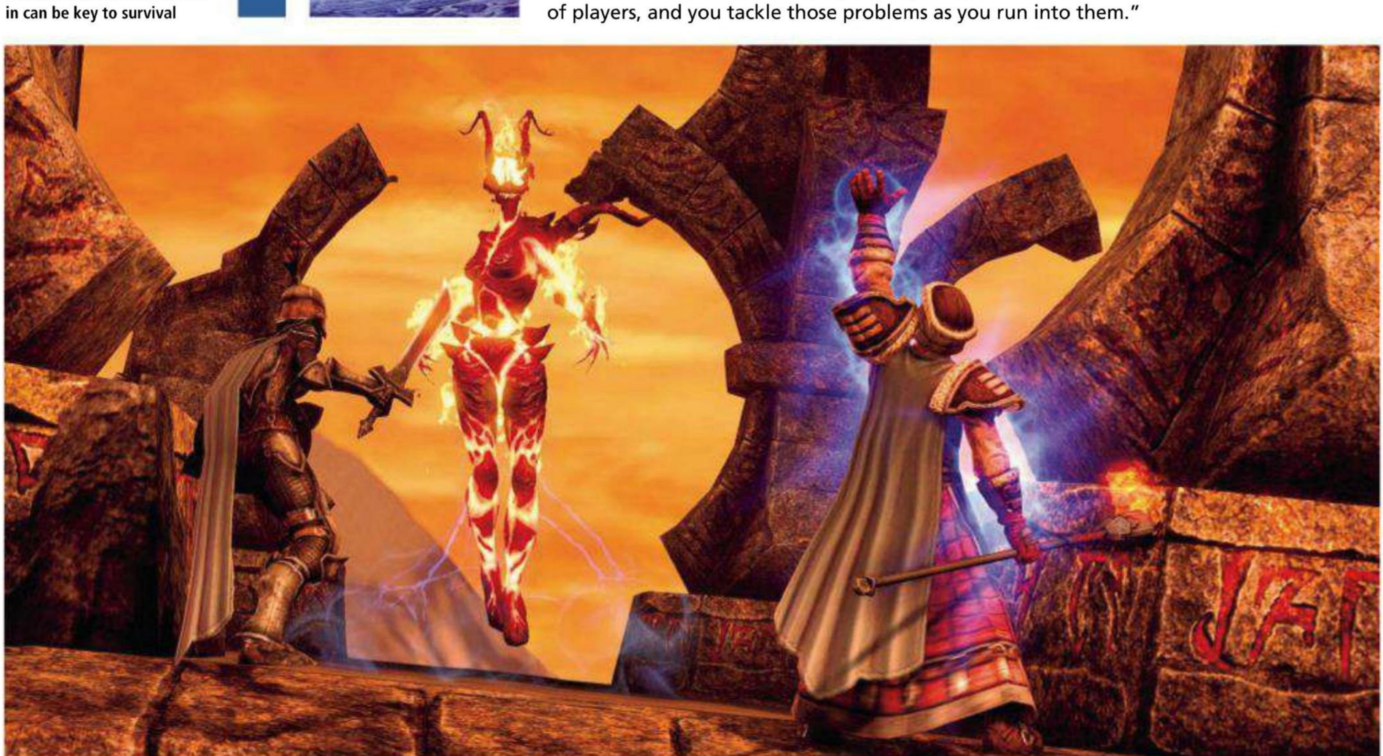
PvP is strongly tied into story in *The Elder Scrolls Online*, with each of the three alliances vying for control of the imperial city. In a bold move, all of Cyrodiil's nine zones, based at the very centre of the map and the setting of *Oblivion* – is set aside for PvP, with 100-a-side battles raging as players capture resources and compete for territory. The more territory you hold, the more influence you have, and the more bonuses your alliance will get, such as levelling quicker and receiving additional perks. "The system benefits everyone in your alliance," says Firor, "even if you're not in PvP. PvP can be a little intimidating, so we're trying to incent players to try it. When you fall behind, we want everyone to go and play together to get those bonuses back."

A further example of the team's matchmaking tendencies can be seen in the return of public dungeons to the genre, which

BELOW **Enemies often differentiate themselves by range, with spellcasters hanging back and warriors getting in close. Knowing the best order to tackle foes in can be key to survival**

Tech adventure

While *The Elder Scrolls Online* doesn't have to worry about console optimisation, being billed as Mac and PC only, it's worrying to think of an MMOG built from the ground up by Bethesda, with its backwards dragons, and crippling memory leaks. "It's not only that, but there are also many different types of tech problem when you create an MMOG: account creation, servers, latency," admits Firor cheerfully. "The critical difference, however, is that you have a long beta test where you build up to thousands and thousands of players, hopefully tens of thousands of players, and you tackle those problems as you run into them."



LEFT **Some of the enemies are truly massive. As a general principle, though, you'll be fighting groups of smaller mobs rather than big damage sponges – that way, the AI foes are better training for the PvP combat**

crop up here alongside the more traditional instanced variety. The instanced dungeons are classic endgame content, reserved for raiding parties of up to six players. The public dungeons, however, are grand, mob-riddled spaces where everyone is welcome.

"If anybody's played MMOGs for a long time, they'll know the very first generation had public dungeons," says Firor, whose previous game-making credits include *Dark Age Of Camelot*. "Spaces designed for people who are not grouped together to go into and fight. It's a great place for people to meet other players. They're very important to us. They're soloable, but they're also dangerous – lots of creatures, close together. Basically, if you solo it, you'll need to find a place to heal. Then you might find another player there who's exactly like you, and then you can fall in together. When you think back to the fun moments in first-generation MMOGs, it's standing there, terrified, in an enclosed space, waiting for someone to come and save you. We can't do that punitive gameplay that they did in those days, but we can put people together in places where they want to work with others."

Public dungeons are part of Firor's personal quest to have players meeting each other "in the world, rather than in menus", an element in a wider trend that sees the design team taking standard MMOG ideas and stripping them of unnecessary friction and complexity. "We're re-examining why there's complexity in the first place," admits creative director **Paul Sage**. "We're not dumbing down; we're streamlining. The rest of the game is going to be compelling; we don't need to put barriers up so people don't get to that. I play so many other games that when you come to MMOGs, you can quite clearly spot the things you don't need. It's important to challenge the prevailing mentality."

Look closely, and you can see this idea at work. For example, it's there in a UI that fades away when it's not in use ("There's nothing more intimidating than a new player logging into an MMOG and seeing a UI that's 100 buttons," says Firor. "I describe [our] UI



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Screenshot gallery



philosophy as, 'Our world is beautiful – don't put UI all over it.'"). It's also there in the content structure, which allows you to ignore quest hubs in favour of pure exploration. "In the older generations of MMOG when you're exploring a new area and you see a cool ruin and then a town, the game tells me I need to go to the town and not the cool ruin," complains Firor, "so I can find a quest giver who will tell me to explore the ruin. We're skipping that. Just go explore the ruin, and the quest will start. The world is set up with little pockets of content around each zone, which you can explore in any order. Each pocket lasts about 30 to 40 minutes, gives out a reward, and ties into the main story."

It's a fundamental tweak to the genre norms, and it came out of internal playtesting. "Our original model was still exploration-based, but not as much as it is now," admits Firor. "We didn't have quest hubs, but we had NPCs in strategic locations, and we left it to you to find them. Then we had people in the office who were not MMOG players, and they said, 'I can't find the content.' We realised somebody had already solved this problem for us, and it was *Skyrim* with the compass. That compass is very important to this game, as it's come to us straight from the IP. I walk across this world, and the compass points out stuff to do. The world itself will push items and push quests to me. I can go to a city and take quests, and they'll lead me to some of these things, but there are some things you can only find when you walk around. Everywhere you go, there's something to do, and you can do that stuff the moment you find it."

This may prove to be *The Elder Scrolls*' most important contribution: a structure that pulls the adventuring back into the landscape and prods you towards looking around. It's something that, as MMOGs get better at wiring players up to rewards and quest chains, often feels quietly sidelined.

Looking around in turn prods you towards combat. Firor demonstrates this with a mid-level Breton, making his way past Wayrest, only to be set upon by a group of mobs. "There are MMOG things that don't translate well to *Elder Scrolls*," he explains before the fight erupts, "so I'll just call those out right off the top. We're an MMOG combat game. We have an *Elder Scrolls* twist to it, but it's not twitchy combat. It's the Internet: you can't control latency, and anything twitch-based gets very difficult to make fair."

Instead, the team has taken the series' tradition of managing health, magicka, and stamina, and spruced up conventional hotkey combat with a more dynamic emphasis on blocking, sneaking, and sprinting. These are handy abilities for a game that prefers to pit even solo players against groups of monsters. "We're trying to provide an immersive tactical experience," says lead gameplay designer **Nick Konkle**. "In the old generation, random chance provided a lot of your defences, and that made sense, because the hardware wasn't able to guarantee much more. We're making the next generation, though, and defending yourself actively is much more interesting than just finding out you randomly dodged. It's the same thing with sprinting and sneaking: it's not that you have boots of speed on, it's the resource of stamina you have, and you choose how to make use of that resource."

> ***"The compass points out stuff to do. The world itself will push items and quests to me"***

In fact, although most battles revolve around six hotkeys – two are weapon-specific, three tie into class and perk skills, and one is an overpowered ultimate that builds over the course of a fight – combat might be more familiar to *Elder Scrolls* players than Firor has suggested. "One of the core ideas of the series is that you use weapons and you get better at them," says Konkle. "It works for this game, too: I can pick up a bow, and I'll be able to use it. That's a big deal, especially in a game with classes. When I start with that bow, I may only have basic attacks available; mastering it will give me a greater variety of options, but I'm still completely effective with the base set. Throughout levelling, meanwhile, I'll have other attack options unlocking, and I have to choose a loadout of three that work best with the weapons I have and the character I have

Q&A
Paul Sage
Creative director, ZeniMax Online



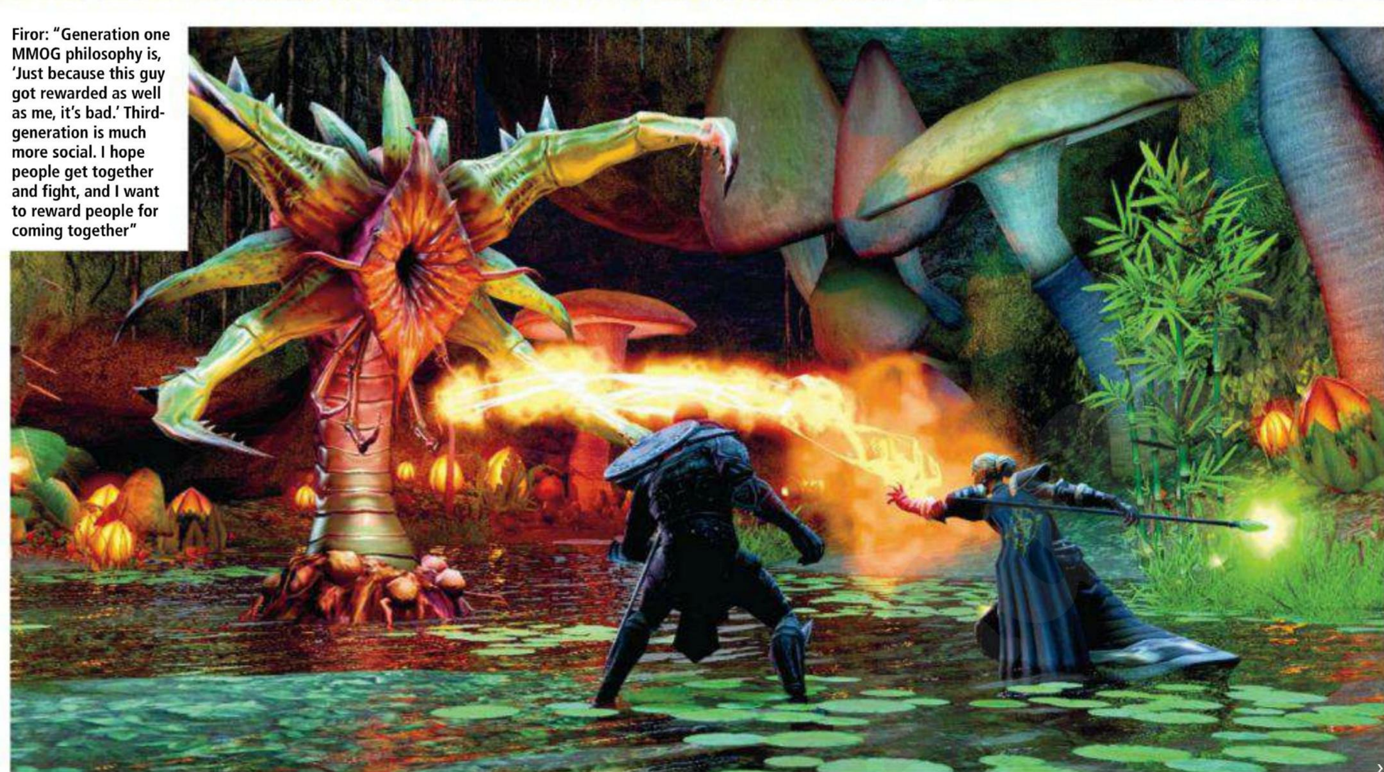
You're fresh to *The Elder Scrolls* from *Tabula Rasa* – how do you ensure that a project so troubled and ambitious hasn't made you conservative?
When you switch your company or your game, you switch your focus. *TR* taught me a lot, just like *Ultima Online* taught me a lot. Did it make me conservative? Probably in the right places. Did it also encourage me to become more liberal in other areas? Yes. It's because you watch people's reactions, and you learn what people like and what they don't like.

Is it riskier not to take risks with MMOGs?
One of the things we focus on is that we have to create a good game in its own right. MMO is just an abbreviation. It's just letters… For us, we have to make a really good RPG that pays very close attention to *Elder Scrolls*. If we don't make a good game, we're sunk. Our combat's a little more radical than you might think, for example: you can crouch and block whenever you want. We tried that out, and then it really takes off, you realise it feels good, and it's something you aren't playing anywhere else.

Lore's a strength of the series, but could the depth frighten some new players?
It's fun to talk about this. When we talk to the content teams about building quests, I'll say, "It's great to be the hero of the world, but it's better to be a hero in someone else's eyes." If your NPC says, 'What you did for me was remarkable,' and you see the affect it has on them and that area, then you can go and add in the lore afterwards… What you should be concerned with is what's happening now, though: you have to channel the lore through the personal stuff.

Interest in MMOGs hasn't decreased, but loyalty seems to be on the wane. Is the audience now a migrating locust horde?
The interesting thing, if you pay attention to *Skyrim*, is how many people are still playing [the game]. It isn't that you have flagging loyalty. The trick is having so many different things for people to try. Do you want a tapas menu or a one-course meal? You have to provide multiple ladders of advancement, so I'm not just doing one thing. If I'm just trying to get to level 50, I'm out. There have to be several things I'm working on at once. It's about distraction-based gameplay, that's a huge part of *Elder Scrolls*, but it's also about distraction-based growth, when you see this thing get better that you weren't even concentrating on. These are the things that keep people coming back: keeping them surprised.

While it's certainly pretty, in motion *The Elder Scrolls Online* doesn't yet make the same visual impact as something like *World Of Warcraft*. It's possible the art will be further refined before release, though

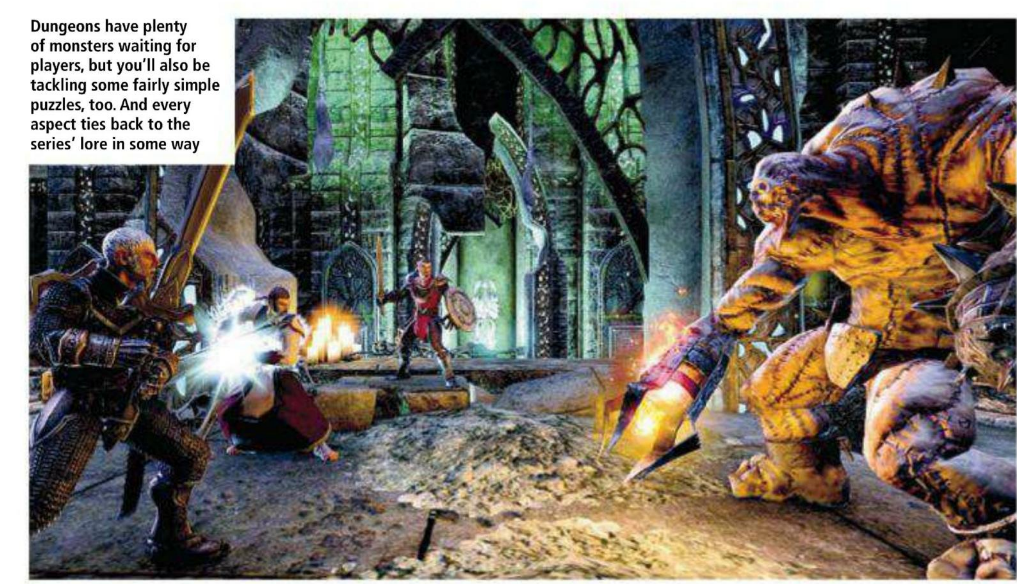


Firor: "Generation one MMOG philosophy is, 'Just because this guy got rewarded as well as me, it's bad.' Third-generation is much more social. I hope people get together and fight, and I want to reward people for coming together"



in mind. Then your ultimate is derived from your class. It's really awesome, but you only have one slot for that, because it's so overpowered. We let you change any of these loadouts as long as you're not currently engaged in a fight."

"Each monster has their own iconic behaviour and attack, so combat varies depending on who you're facing, too," chimes in gameplay designer **Maria Aliprando**. "When you see the monsters, you know what they're going to do. We don't want to trick players, we want them to learn to master different situations, whether it's one enemy laying down sticky oil or another that can then set that on fire. If every player can block, sprint and crouch, we want the monsters to play off that. If any player can block, every monster is able to power attack any player. It means that we can put in our Finesse system, which encourages you to counter these iconic behaviours and attacks perfectly. Build up the Finesse bar and you earn experience, but the moment you miss an attack, it clears entirely."



Dungeons have plenty of monsters waiting for players, but you'll also be tackling some fairly simple puzzles, too. And every aspect ties back to the series' lore in some way



ZeniMax Online works closely with Bethesda Games Studios to ensure that the lore – and the loot – fits into the IP. The second era setting gives it leeway in both aspects, though

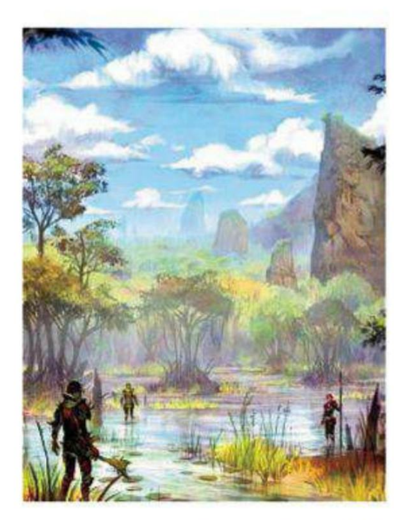
Battles, in other words, are about prioritising targets – choosing whether to pick off mages before they run to a safe spell-casting distance, say, or kill a necromancer before it raises a skeleton – and in a typically smart fashion means that PvE provides an excellent primer for PvP. "We set up our NPCs to fight like players would," explains Firor. "And when it comes to rewards, we don't split it either. Everybody in the fight gets full XP for fighting; we don't want to be one of those MMOGs where people get annoyed when other players come to help them."

In combat and exploration, then, *The Elder Scrolls Online* seems like a quietly confident evolution of MMOG practices, and that makes the project's weakest element, its art design, something of a surprise. Although there's a noticeable move towards stylisation in the character models – monsters are stockier, faces are a little more chiselled – the sense is of a game so eager to avoid the cartoonish strokes of *Warcraft* that it's backed, rather worryingly, into bland *EverQuest* territory. The world itself offers plenty of variety, whether it's the Aztec-themed ruins of Argonia, the crumbling temples and piling sands of the Redguards' home desert, or even the familiar wooden lodges of Skyrim, illuminated by shimmering strands of northern lights. It's pretty, but it isn't immediately arresting. Save for an impressionist blurring that turns the mountains on the horizon into a haze, reminiscent of the Monet prints that Firor has filled his office with ("I'm sort of a fan of Monet, but I'm more a fan of his castles," he admits), it can be hard to mark it out from the pack at first glance. This is particularly true with the placeholder UI slapped on top. It's not the traditional *Elder Scrolls* look, but it's yet to become anything else in its place.

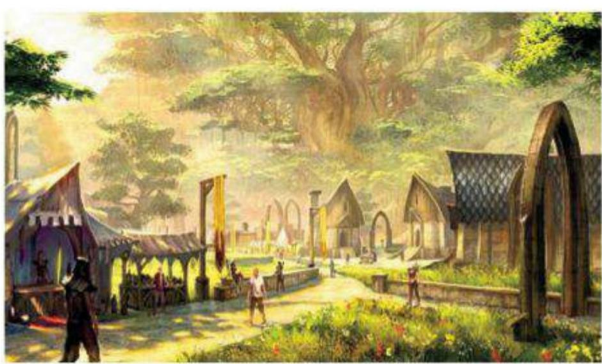
The forums and fan sites might be slightly underwhelmed by the visual style, but there's time for the design team to bring it into focus, just as there's time to refine that UI, finalise the classes, test the servers, and announce a payment model. For now, Firor's preoccupied with creating a core game that is worthy of the series itself, a series that continues to surprise him. "Every day, I still come across lore that I didn't know existed," he laughs, when asked about the true impact of *The Elder Scrolls* on the project. "It's just so deep. People play games for different reasons, but the people who respond to this series the most like to get immersed in a world to the point that they feel they're living there. They like to have freedom of choice to do what they want to do, and that's the part that resonates with us the most, too. This is what makes the IP so great for an MMOG: people already know it's the kind of game where they can head out and explore. That's the one thing that players will learn immediately that's different about us: if you see something in the distance, you can go and investigate. Oh, yeah, and be rewarded for it, too." ■



LEFT **Each landscape has its own weather effects, from the sandstorms of the Redguards' desert to the rain of Wayrest. Skyboxes add a plenty of drama to the environs, with Turner-esque masses of clouds and light.** RIGHT + BELOW **The lands of Argonia promise swamps and Mayan-influenced ruins left behind by unknown ancients. Elsewhere, there are jungles and rolling fields, and even a township that's built around a beached ship.** BOTTOM-RIGHT **The levelling philosophy and character customisation is typically American, but when it comes to art, *Elder Scrolls* remains a European kind of fantasy full of leafy trees, wooden structures, and dark menace**









Design showcase

The Elder Scrolls Online deviates from the series' traditional style, but also steers clear of cartoony excess, with landscapes that tend to be filled with careful detailing



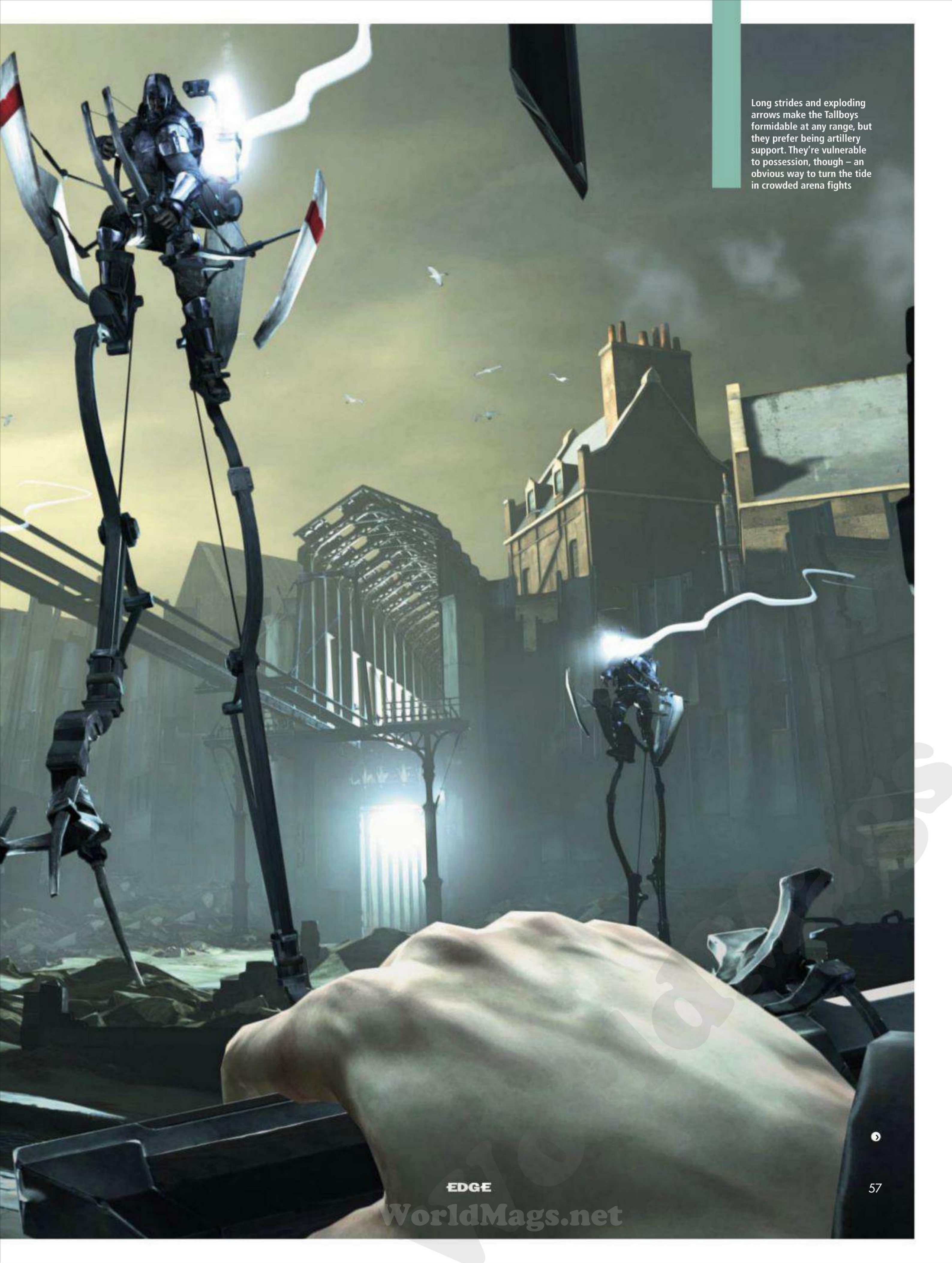
ABOVE + LEFT **The frozen plains and arctic woodlands of Skyrim will be a draw for fans of the series early on in the game. *The Elder Scrolls Online*'s version offers plenty of familiar towns and ruins to explore, and looking up at night will once again treat your eyes to a wondrous sky ablaze with strands of shimmering aurora. It will be interesting to see how other familiar areas hold up**



DISHONORED

The return of Arkane promises to be the dark messiah of the assassin sim

Publisher	Bethesda Softworks
Developer	Arkane Studios
Format	360, PC, PS3
Origin	France/US
Release	2012



Long strides and exploding arrows make the Tallboys formidable at any range, but they prefer being artillery support. They're vulnerable to possession, though – an obvious way to turn the tide in crowded arena fights



DISHONORED



Moving between the city's districts and facilities reveals its range of enemy types. Putting a historic spin on the term 'class-based combat', they span from sabre-rattling gentry to pugilistic dockers



Antonov defends the game's level of gore, which sees bodies peppered by a mix of bullets, rats and razor wire. "The killing has to be detailed and varied," he explains

When **Viktor Antonov**, the man responsible for *Half-Life 2*'s art direction, tells you that he wants to be "in a jazz band", you can rest assured that he's not embarking on yet another pet project that will keep him from working on videogames. Making games, he's suggesting, is seldom more musical than when a group of alpha creatives start jamming together on a single project. While disharmonious at first, they gradually find something that none of them would have discovered by themselves. Something alive, and maybe a little bit dangerous. Something like *Dishonored*.

For Antonov, this stealth-action-FPS hybrid is a return to the gaming spotlight after almost a decade spent working on films, books, and abandoned shooter *The Crossing*. For Arkane president **Raf Colantonio**, it's a reminder of why we should care about the maker of *Dark Messiah Of Might And Magic*. And for Ion Storm and Origin veteran **Harvey Smith**, after an acrimonious split from Midway in 2007, the title '*Dishonored*' cuts right to the point: you're only as good as your last game, and his was *BlackSite: Area 51*. "I feel the pressure every project because of successes and failures in the past, and most of that is expectation," Smith says.

Colantonio nods and picks up the point: "We felt it with the melee combat especially, because people would be expecting a kind of next step [from *Dark Messiah Of Might And Magic*]. But it's not a melee combat game with special combos and the things you might expect. So how do we use what's good about *Dark Messiah*? That is a pressure."

At least at first, *Dishonored* is still very much what you might expect from this collaboration. It's a story of supernatural revenge and assassination that's grounded in Arkane's visceral combat; Antonov's love of the old, ornamental and obscure; Smith's experience with both *Deus Ex* and *Thief*; and their shared belief that a game world should feel bigger than the game.

The titular 'dishonored' himself is Corvo, a master assassin and loyal bodyguard who's been framed for the murder of his employer, the Empress of Dunwall. Imprisoned by former friends during a deeply treacherous coup d'état, he's soon visited by The Outsider, a spiritual presence who gives him magical powers and a blueprint for revenge, and joins the company of a local resistance movement.

The philosophy is to design exciting systems and let them fight among themselves

Several artfully disguised tutorial missions will lay all this out before the story starts moving back and forth between free-roaming missions – each with its own ecosystem of NPCs and optional quests – and Corvo's safe house, a dockside pub run by the resistance. This isn't quite hub-and-spoke, Smith cautions, but it's equally beneficial, giving exposition, orientation, practice and weapon acquisition their own theatrical stage.

Based largely upon London during the Great Plague, Dunwall is defined by the river that runs through it. An infectious artery that's spreading disease and man-eating rats through the streets, it's also, importantly, how Antonov and fellow art director **Sebastien Mitton** have built a place that's visibly split between the rich and poor.



This is England?

With *Brink*, *Rage*, *Skyrim*, and even *Crysis 2* eschewing realism for something more stylised, it's no shock to hear Antonov hail painterly textures and lighting as the future of game aesthetics. "Art is about removing the useless pixels from geometry," he says, before explaining that an anatomical painter was brought in to capture and then exaggerate the morphology of England's old ruling and working classes. Other references include Charles Dana Gibson, the 19th century drawer and observer of American high society; the Captain Blood illustrations of Wyeth and Cornwell; and the hypnotic dystopia of Fritz Lang's Metropolis.

ABOVE **Rats erupt from the ground beneath your crosshair before homing in on the nearest unfortunate. Others pop up throughout Dunwall, feasting on corpses, or, failing that, a player who gets too close. Piranhas, meanwhile, make even a dip in the water treacherous**

Metropolis and Blade Runner rank highly in Antonov's inspirations, he explains, and Dunwall is very much in the vein of these dystopias. An iconic Victorian clock tower stands defiantly from its soft and vulnerable royal quarter, high above the sewers and far from the squalid embankment. Whatever government buildings dare to sit riverside do so from their own imposing fortresses, harking back to the smart barriers of City 17. To the west, meanwhile, the resistance hideout lies within a stone's throw – or boat ride – of every place in the game.

"We've just finished [the] skybox, by the way," notes Mitton. "We started with this map that was connected to reality, with this river that's based on [the Thames], then we selected where we'd want to play. We had a really clear idea of some locations, then it was a case of thinking what's best for an assassination, for example. We didn't want to push too far too soon on the skybox, because we iterate a lot, and we didn't want to waste lots of time wrecking everything when they asked us to, say, move the bridge to the other side of the river."

The process he's alluding to is rooted in the philosophy of Smith and Colantonio, which is to design exciting gameplay systems and let them fight among themselves, creating even more exciting exploits that in turn become new systems. Then you can worry about locking everything down.

"We don't really think of a system in terms of how it can interact with this or that," says Colantonio. "We design a system with general rules so that it should work when you just drop it in an environment. It may interrupt another system in an

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Screenshot gallery



unexpected way, and much of the time it creates something cool. Sometimes it's an exploit, and sometimes it's a bug, but if you manage to fix it then it becomes a cool and creative way for the player to play the game. And that's the part that we really love."

At first glance – with Corvo's glowing hand or gadget on one side, and his blade on the other – these systems look an awful lot like *BioShock*'s. But *Dishonored*'s mechanisms aren't as rigidly preconceived, and offer far more scope for experimentation. There are gimmicks, such as summoning an army of rats from the ground that will turn your enemies inside out, but there are also abilities that tap deeply into the game's lore and level design. Rats are everywhere in Dunwall, for example, and you can possess any one of them.

Being a rat gives you access to certain secure areas, such as offices or bedchambers, but it also unlocks a 'rat's perspective' layer of embedded story scrawled under desks and ducts. And because *Dishonored*'s makers want its world to behave consistently, Corvo can also possess any of Dunwall's lethal piranhas, leading him to other secure areas such as a steam bath visited by an assassination target.

You can, in fact, possess just about anything that moves, including the Tallboys, descendants of *Half-Life 2*'s Striders and manned by guards who shoot exploding arrows. Or you could take over a prison guard with the key to a locked door if you'd rather not have to pickpocket him (although that's an option), the bodyguard of a target, or even the target themselves. You can, deliciously, possess your prey, walk them off a balcony, and transfer yourself into a passing guard as your target hurtles towards the ground, then casually walk away. Corvo is like a lethal miasma when he's in stealth mode – his crimes committed by everyone but him.

"It's incredibly challenging, because every time you add something then it could break something, and it becomes exponentially harder to tune," says Colantonio. "Our first approach to that is to just let that happen; we don't try to lock it or preplan it, because that's the opposite of our philosophy."

One of Dunwall's sandboxes for all this mayhem is The Golden Cat, a brothel where Corvo must assassinate a set of corrupt politicians, the Pendleton brothers. It's where both the aforementioned steam bath and bedchamber are located, and the mission can be completed without alerting a single guard. Alternatively, should you mess it up, or decide to revel in Corvo's infamy, you can turn it into a slaughterhouse, chopping up every guard, client, worker, and a few optional arms of the story in the process. Arkane speaks modestly of its melee combat here, but it needn't.

"What we kept from *Dark Messiah* is that it's very visceral, with the shocking moves for fatalities, and so on," says Colantonio. "But it's simpler, more of a 'feeling' experience. Because, for us with this game, combat is a much more global thing. It's not just the sword, it's the sword combined with what's in your left hand – a gadget, a power, or a different weapon like a gun."

Corvo can possess any of Dunwall's lethal piranhas, leading him to secure areas

Make no mistake, *Dishonored* is a sizzling reminder of why Arkane has been sorely missed in this arena. Few other games come close to its combat's sense of realism mixed with readability, laced as it is with powerful abilities such as a telekinetic whirlwind, eviscerating razor wire bombs, and multiple ammunition types for both your gun and crossbow. The best of the lot is 'blinking', a masterfully crafted teleport skill with a handy crosshair so you can trigger it accurately and follow up instantly. Now they see you, now they don't – and, oh dear, now their head's bouncing off the cobblestones.

It all adds up to what appears to be an uncommonly rich and well-rounded game that moves at the player's pace, responds to the player's actions, and will grow and contract with their desire to explore. More than just a collaboration between a handful of strong personalities, it's a culmination of the very things – reactive worlds, satisfying methods of traversal, swashbuckling combat, painterly art, rich lore and real variety – that built their reputations. ■



Q&A
Viktor Antonov
Head of art, Bethesda/ZeniMax



Was there an urge to downplay your style for the sake of *Dishonored*'s identity?
No matter what, some of my personal style will – as any decent designer's would – attach itself unconsciously. Now, I'd naturally try to avoid redoing past projects and getting stuck doing one thing. This project, though, working with Sebastien [Mitton, art director], there was some desire for inheritance and legacy. He liked City 17, so it seemed insane to him to completely ignore this.

Half-Life 2 is a very classical science-fiction, War Of The Worlds-type thing – mechanical machines, very grounded. My first reaction would have been to completely avoid that, but then he convinced me. I would have gone for something more ornamental and developed that style throughout the whole game. But it's a collaborative effort, so I said, 'OK, let's not be snobbish about it and see what I can do.'

Unreal favours manual placement of static or instanced lights over dynamic ones. Is that a blessing or a curse?
Lighting is the one thing that unifies my style. I like single directional lighting where one light source casts long shadows, because that's a classical Rembrandt [and] photography style. And the simpler it is, the better it is. In 3D, we can put 10,000 lights in there and flatten the hell out of everything. But I used to draw things by hand and in charcoal, and that's how you read things – it's legibility. We always like details in games, and shadows draw shapes and they unify elements; they're a physical presence. In drama, film, photography... you don't have constantly moving dramatic lights – [they're] to be used in moderation when you really need it.

Dunwall's based on London, and its clash of indigenous and invading architecture evokes that of City 17. Is it a wholly negative look you went for?
Half-Life 2 had a very strong contrast between the past and the invasion, and the theme there was really *invasion*. That's why we chose a region that had been invaded constantly historically, through the Ottoman Empire, by the Russians, [and] Germany. It was a logical step to bring the ultimate invasion there. And there was this contrast – the city was getting hurt. London, by its nature, is very mixed and chaotic, so the logic there was slightly different. The old and the new are both equally oppressive and heavy sometimes – they don't really fit together – but that's the beautiful lack of harmony London has.





RIGHT + LEFT **Lack of repetition and consistent simulated behaviour make characters such as these feel like part of a real place despite their exaggerated features. But even pedestrian NPCs can be interrogated for extra backstory**



RIGHT **The 'Weepers' are your most conventional enemies, shambling about with skin and brains being slowly eaten by plague. What with their limited faculties, their primary attack is a screen-consuming lunge and grab**

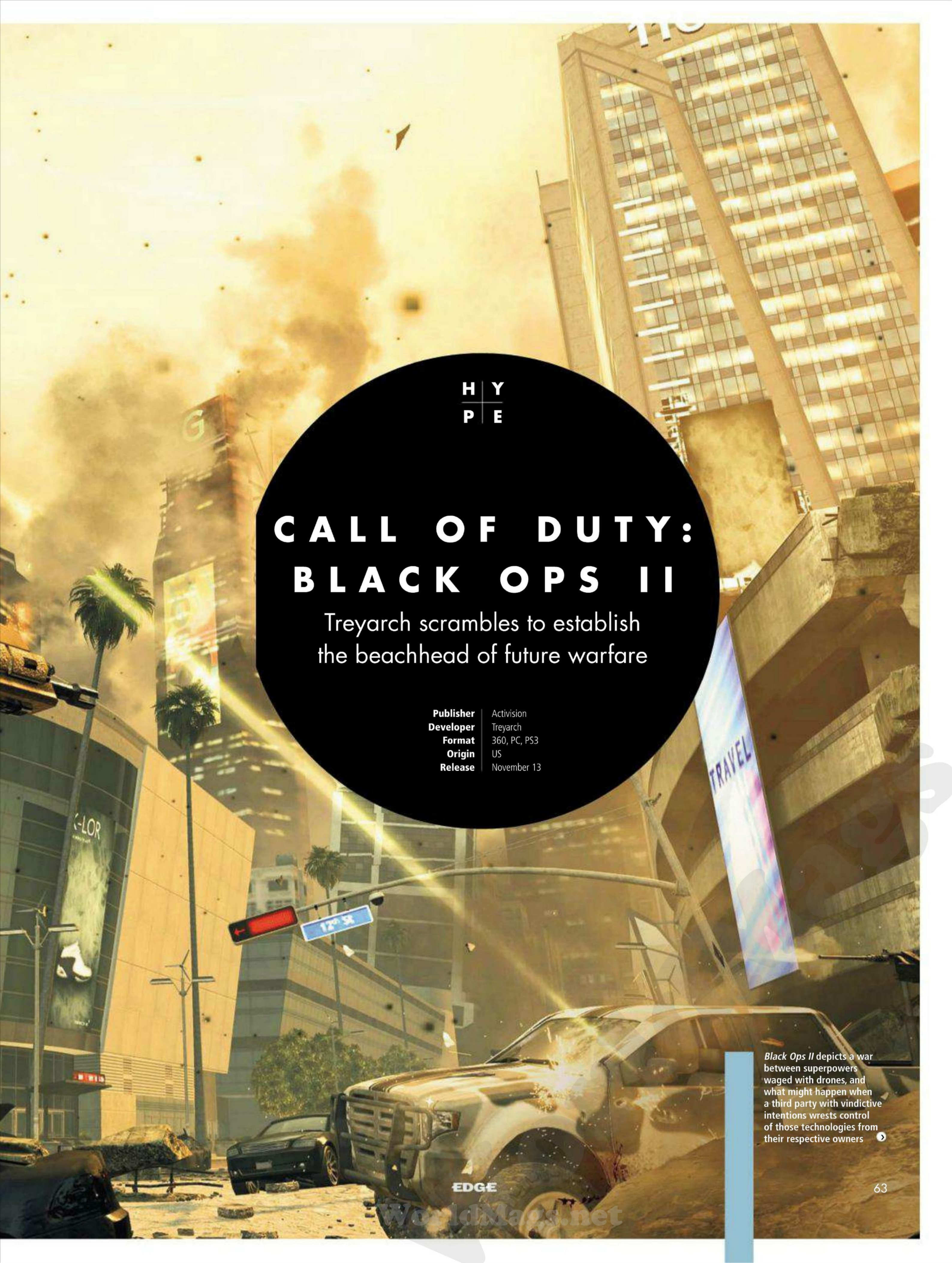


Design showcase

Existing somewhere between Victorian London, City 17 and Antonov's first impression of a HG Wells-style dystopia, Dunwall has a refreshing painterly style that helps carve out its identity

RIGHT **Being an Arkane game, Corvo's short blade bites angrily into flesh before bouncing back out, ready to counter riposte. His gadgets and ammo are built by his resistance comrades out of parts salvaged *BioShock*-style from the mission maps**


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CALL OF DUTY: BLACK OPS II

Treyarch scrambles to establish the beachhead of future warfare

Publisher	Activision
Developer	Treyarch
Format	360, PC, PS3
Origin	US
Release	November 13

Black Ops II **depicts a war between superpowers waged with drones, and what might happen when a third party with vindictive intentions wrests control of those technologies from their respective owners**



CALL OF DUTY:
BLACK OPS II



BELOW **The main multiplayer mode exists wholly within *Black Ops II*'s 2025 state. The returning Zombies mode, meanwhile, takes place in a new world**

ABOVE **Enemies such as the Cognitive Land Assault Weapon (CLAW) present a unique challenge for *Call Of Duty* veterans, but run the risk of playing the roles of bullet sponges**





Just minutes into his presentation about *Call Of Duty*'s new futuristic, drone-led cold war, Treyarch studio head **Mark Lamia** insists that, "This isn't science-fiction. This is happening whether we choose to acknowledge it or not."

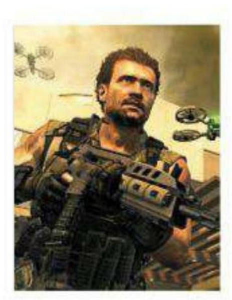
He's referring to the shape of war to come, of battlefields populated with drones, and of assassination missions planned and executed from halfway across the world with little more than a keyboard. Lamia revels in showing us days-old headlines, covering everything from unmanned US craft to viruses infecting robotics centres all over the globe.

And in the days after his presentation, the world's news agencies are continuing to feed into his vision. On May 5, a US drone killed nine suspect militants in Pakistan's Shawal area. One day later, a second drone above Yemen dropped a missile on al-Qaeda leader Fahd al-Quso. Given that a multiplayer map we're shown is named after Yemen, we're betting that particular story will be filed away for a future press presentation. By all means call *Black Ops II*'s setting fiction, and its narrative will no doubt be as bombastic as ever, but it's fiction informed by a hefty volume of science fact.

What's more, espionage of a different sort might be involved, since conspiracy theorists are suggesting *Black Ops II*'s eye-catching leap to 2025 is a pre-emptive strike against the potential futuristic setting of Respawn Entertainment's debut title. With *Black Ops II*'s inception by director Dave Anthony and Hollywood writer David Goyer taking place before *Blacks Ops I* was completed, dovetailing neatly with Infinity Ward's well-known troubles in 2010, the conspiracists' conclusion isn't necessarily without merit.

But even if these rumours are true, Treyarch has embraced and celebrated the switch in period for far less competitive reasons. Internally, the freedom of crafting a new conflict in a fresh setting has been compared to the burst of creativity that washed over the studio when the WWII shackles were released for the first *Black Ops*. If *Black Ops II* is to be a creative rebirth for *Call Of Duty* as a series, it's something of a born-again moment for Treyarch as well.

Although Treyarch's portrait of the future doesn't mean a vastly new visual style for *Call Of Duty* (strip away the odd holographic billboard and 2025's Los Angeles doesn't look much different from the city of today), it gives rise to fundamental changes to the series' combat. Men still roam battlefields, but so do land and air drones, neither of which have



Set story to manual

Black Ops II ignores *Modern Warfare*'s sequence of events to extrapolate a fiction out of our timeline, one in which China and America become locked in a new cold war over China's monopoly on key technological building blocks known as rare earth elements. But although Treyarch has spent months researching the story, the later chapters are placed squarely in the player's hands. The path of the tale, the stories of the characters, and even the levels themselves will repeatedly splinter depending on key decisions and the outcome of skill tests that are peppered throughout the campaign.



While Brookings Institution senior fellow Peter Singer played a pivotal role in the research for future technologies, Treyarch turned to former black ops operative Lieutenant Colonel Oliver North for firsthand accounts of '80s espionage for its flashback scenes

anything we could come close to calling a head to target. Luckily, the human race will have new tools of its own to deal with this threat: an army of quadrotor drones to send into skirmishes to attack hostiles at the tap of a D-pad, and a rifle with wall- and armour-penetrating capabilities courtesy of charged multi-bullet shots. The latter's a surefire remedy for *Call Of Duty*'s infamous "camping bitches", chuckles Lamia.

Leap into the new Strike Force missions, and those quadrotors become playable. So do other genera of drones, as well as an all-seeing general able to bark orders to units from a top-down perspective in RTS style, harking back to *Black Ops'* WMD mission.

For a series frequently lambasted for playing it safe, these additions are bold and widespread. It seems the change in setting will not only see *Call Of Duty* move away from playing off contemporary and historical warfare, but also invent a style of conflict of its own. Fans of traditional gunplay needn't worry, however – they can bask in the knowledge that more familiar depictions of warfare live in the game's '80s levels, which are also where the narrative links to *Black Ops I* are at their strongest.

These missions are flashbacks of Alex Mason's adventures, retold to his son David (protagonist of the 2025 levels) by none other than resurrected hero Frank Woods. Lamia hints at the generation's conflict between the

Lamia revels in headlines, from unmanned US craft to viruses infecting robotics

Sandinistas and contras in Nicaragua, and operations involving Manuel Noriega in Panama, but so far the only historical mission revealed takes place on horseback in Afghanistan: a fine excuse for Treyarch to show off its performance and motion capture work with both humans and horses alike. More thorough information on these sections is promised soon, but only after clearance levels are upped post-E3. ■

Long before he tore down the halls of Mount Olympus, Kratos traded his soul for the power to vanquish his enemies. As the story of *God Of War: Ascension* aims to show us, not all blood oaths have happy endings



GOD OF WAR: ASCENSION

He will bring them death, and they will love him for it

Publisher	SCE
Developer	In-house (Santa Monica)
Format	PS3
Origin	US
Release	TBC





GOD OF WAR: ASCENSION

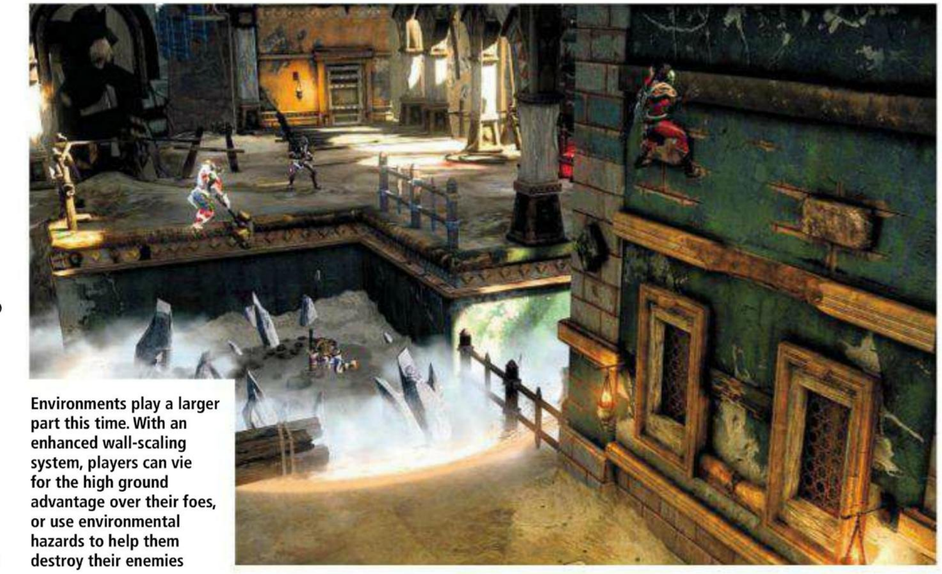


RIGHT **Killing the megalops is key to winning the first multiplayer mode revealed for *Ascension*. Working as a team to pull the beast toward you before executing him is necessary if you want to win**

Kratos is the last person you want to invite to a party: he's abrasive, moody, and has a history of dismembering anyone he disagrees with. However, with a rising tide of trade-ins of singleplayer-only games, and mounting internal pressure to push the PSN Pass program, *God Of War: Ascension* will make the Ghost of Sparta into a more social beast via its suite of multiplayer offerings.

Sony's demonstration begins on a close-up of a man, not a god, dressed in ceremonial armour that pays tribute to his deity. The camera pans out and around as we watch a cyclops burst through a gate and charge at the player. Moments later, another well-equipped man comes into frame and starts hacking at the beast with his sword, performing combo moves that launch him skyward to slash at the monster's face. As the first player recovers from the hit, he joins his companion for some co-op slaying, exploiting *Ascension*'s new tag-team attack system to create combos that feed off one another before yanking the creature's solo eye from its socket and slashing its belly open, spilling guts onto the battlefield.

It's rare for a studio without experience in multiplayer to take on a project of this size, but this opening demonstration perfectly showcases what Sony Santa Monica can bring to the online space that no other studio is delivering. The sort of over-the-top action that has characterised the *God Of War* franchise since its inception is laced through the multiplayer, with swift camera motions and the highest fidelity visuals. This feels like an extension of the traditional *God Of War* experience, rather than a tacked-on addition.



Environments play a larger part this time. With an enhanced wall-scaling system, players can vie for the high ground advantage over their foes, or use environmental hazards to help them destroy their enemies

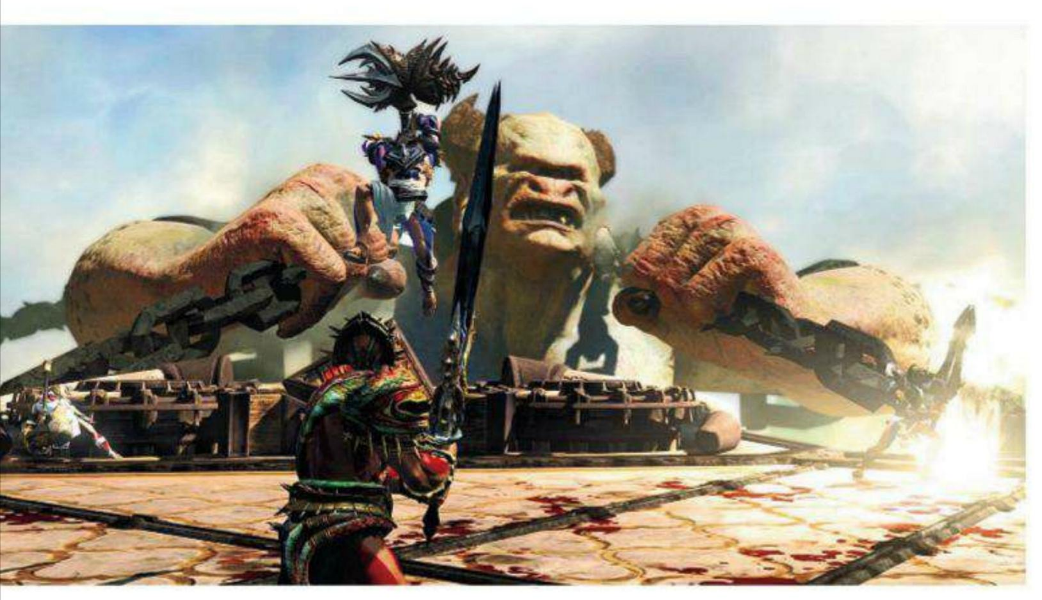
And that very familiar experience continues as players leave the spawn area, passing over the fallen corpse of the cyclops, into the main arena where the rest of the players are already engaged in mortal combat. Clad in red and blue war paint, each of the eight players attack each other with massive barbed swords and hammers the size of small cars, all under the watchful eye of a 50-foot chained 'megalops' that flails and slams his fists into the battlefield.

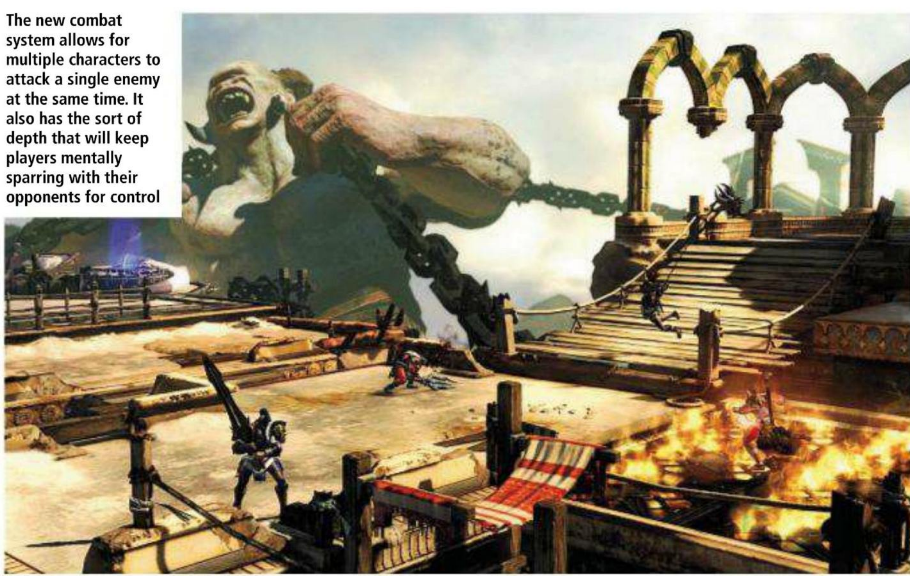
The objective here is to control two central areas with turbines that pull the chains of the megalops in order to drag him to your team's side of the field. Once he's pulled towards you, players must gang up and kill him. This becomes increasingly difficult, however, as his wild attacks become increasingly better aimed towards you and



God of couture

Character customisation plays a big role in *Ascension*. In addition to choosing their armour and weapons, players will have the opportunity to pledge their lives to one of four gods (Zeus, Hades, Poseidon, or Ares) in exchange for powers. Each of the deities will bestow their own advantages and disadvantages, making the choice a key element in determining how your character will play once they're on the field. While there's been no confirmation that players will be segregated based on faction, Sony Santa Monica has a great deal of hope that you'll feel pride in your allegiances and exemplify their values.





The new combat system allows for multiple characters to attack a single enemy at the same time. It also has the sort of depth that will keep players mentally sparring with their opponents for control

your teammates as you pull him towards your side of the field.

Perhaps the biggest evolution of the game's core mechanics is in the design of its new combat system. The sprawling chains of attack strings from the singleplayer game have been offset by a complex game of checks and counters: a rock paper scissors system determines attack priority when two players meet, with swings timed to give you the opportunity to block, dodge or counter, creating a more duel-like combat system than the brawling of singleplayer modes. All of this is enhanced by the inclusion of special abilities granted to the player by the deity to which they pledge allegiance.

The startling thing about *Ascension*'s multiplayer is that, even with a host of Kratos-wannabes crowding the field, it feels like a *God Of War* game. Executions are just as bloody and violent as before, the camera still artfully tracks the player to provide the best view of the action, and the final animation sequence when players take down the megalops is on par with the Titan battles from *God Of War 3*.

Although it has not yet revealed much of the singleplayer campaign, Sony Santa Monica has been steadfast in its assertion that the *God Of War: Ascension*'s prequel storyline will deliver the richest narrative experience from the series to date. A mortal Kratos could be written with more vulnerability, perhaps providing room to expand on his previously one-note personality, so there's a chance the promise could hold true. How much time there will be for introspection while he's ripping the haunches from fantasy beasts isn't clear, but it's about time that man-turned-god saw some depth. ■

Q&A
Mark Simon
Lead game designer, Sony Santa Monica



What has been the most difficult thing to translate from the singleplayer experience to the multiplayer?
The feel. Every move that you do across the network, versus not being networked, we've never had to deal with that before. It's different, which means that the way we architect our moves and the way that the move system works is different. Whether or not you respond to a hit is a network event, and that in terms of a technical challenge has been monumental in order to get that to happen. Not only do you need to get that to happen, but you need to optimise it, because the speed is very important, the frames are very important. A few frames can be the difference between it feeling good and not good, feeling fair and not feeling fair.

How do you keep the empowerment fantasy when designing a multiplayer experience that needs to feel fair?
It's difficult, but it's the fun part of the challenge as a designer. *God Of War* combat has always been about making you feel like a badass; Kratos shows his power in everything that he does. If he's not looking powerful, or being powerful, then he shouldn't be doing that, because it's not in character. To take that and translate it into multiplayer was very challenging, because how can you balance that? How do you make it so something's not so overpowering that players will just wipe everyone off the map and make it unfair and not fun? Thankfully, there are degrees of that, and that's where the craft of design comes through.

When most people think about power, it's about a juxtaposition of weak and strong, but this is an environment where all eight players are big heavy hitters. How have you styled the characters to feel different, but as powerful as one another?
What you're talking about is a power that can't be permanent. The power is fleeting, almost like the attention you can get with your 15 minutes of fame. This is kind of different, but there's going to be these moments when you're really powerful and other players are going to recognise that you've got a weapon or ability and they need to watch out for you. That's going to stop at some point, though. It's not going to be permanent; you're not going to have that power the entirety of the match. Someone else might get it, and the tables will turn, and the focus will shift. As long as there's a good exchange of who is powerful, there'll be a good mixture of not having everyone all-powerful at all times.



HYPE

THE UNFINISHED SWAN

A story of wonder and danger that becomes clearer with every step

Publisher	Sony Computer Entertainment
Developer	Giant Sparrow
Format	PS3
Origin	US
Release	2012

The demonstration starts and there's nothing onscreen bar a wall of white. It's impossible to tell the game has even loaded. There are no markers or displays; even the environment is missing. Then Ian Dallas, Giant Sparrow designer and co-founder, pulls the trigger on his gamepad and a black bead of paint sails through the air, leaving a splatter ahead of us as our first reference point.

Begun as a student project by Dallas, *The Unfinished Swan* is an exploration of exploration. Rather than providing an expansive world to comb through, the game relies on compact environments that remain invisible until you cover them with paint. As the levels get painted, paths become clearer and you can push forward, searching for the elusive swan that haunts the dreamscape.

It's a design that could easily have been confounding, frustrating and counterintuitive, but here it works in a startlingly satisfying way. The lack of mollycoddling and a *Myst*-like reliance on intuition provide a sense of ownership over exploration that makes every metre of ground covered feel earned, even when the route is discovered through blind luck. The game encourages you to feel your way through the world, finding a way around their visual impairment, and rewards you with new sights with each splash of paint.

Although Giant Sparrow is heavily invested in letting players find their own way, *The Unfinished Swan* isn't without concessions to accessibility. Golden swan footprints are peppered throughout the stages, providing basic guidance about where you're meant to be heading, although it's never as simple as walking straight to them. A rich soundscape can also aid your spatial awareness if you have a surround sound system, and small audio cues, such as wind chimes in the distance, or the aural quality of your footsteps changing as you walk on different materials, will help you flesh out the texture of the world, aiding orientation when your limited vision isn't enough.

The cautious feeling this sort of sensory deprivation creates is enhanced by a fairytale motif that pairs youthful wonderment with omnipresent danger. At one point during our demonstration, Dallas accidentally reveals a giant frog with the toss of a rogue paintball, which is startling enough on its own. But when the amphibian hops into an invisible



Like a classic children's tale, *The Unfinished Swan* blends curiosity and danger in a playful way, surprising you with mysteries and hazards that are revealed right before your eyes



THE UNFINISHED SWAN

Since nothing is shown to the player without some effort, exploring Munroe's dreamscape is a curious and rewarding experience, with each new discovery disclosing more about his inner psyche





pond and is quickly gobbled up by a massive black sea monster, it becomes clear that you shouldn't wander too far off the path.

For all this mystery and vulnerability, there's still mirth and awe to be found here. Although the narrative is framed by the story of an orphan named Monroe chasing the unfinished swan from his mother's favourite painting, the game is set in the domain of a whimsical king who built his kingdom in his own image. Preposterous statues of bacon and chicken drumsticks stand tall in the section crafted during his food-obsessed phase, for instance. Progression uncovers more about this jovial ruler's life, as well as some carefully drawn parallels between his rule and Monroe's personal struggle with abandonment.

Dallas and his team promise more surprises and new types of paint-oriented gameplay as the game nears release this year, but there's still a lot we don't know about *The Unfinished Swan*. However, with nearly four years of development behind it, the full support of Sony's Santa Monica studio, and a three-game contract with the publisher, Giant Sparrow seems primed to produce the honed curiosities that Sony once relied on thatgamecompany to create. ■

Q&A
Ben Esposito
Game designer, Giant Sparrow

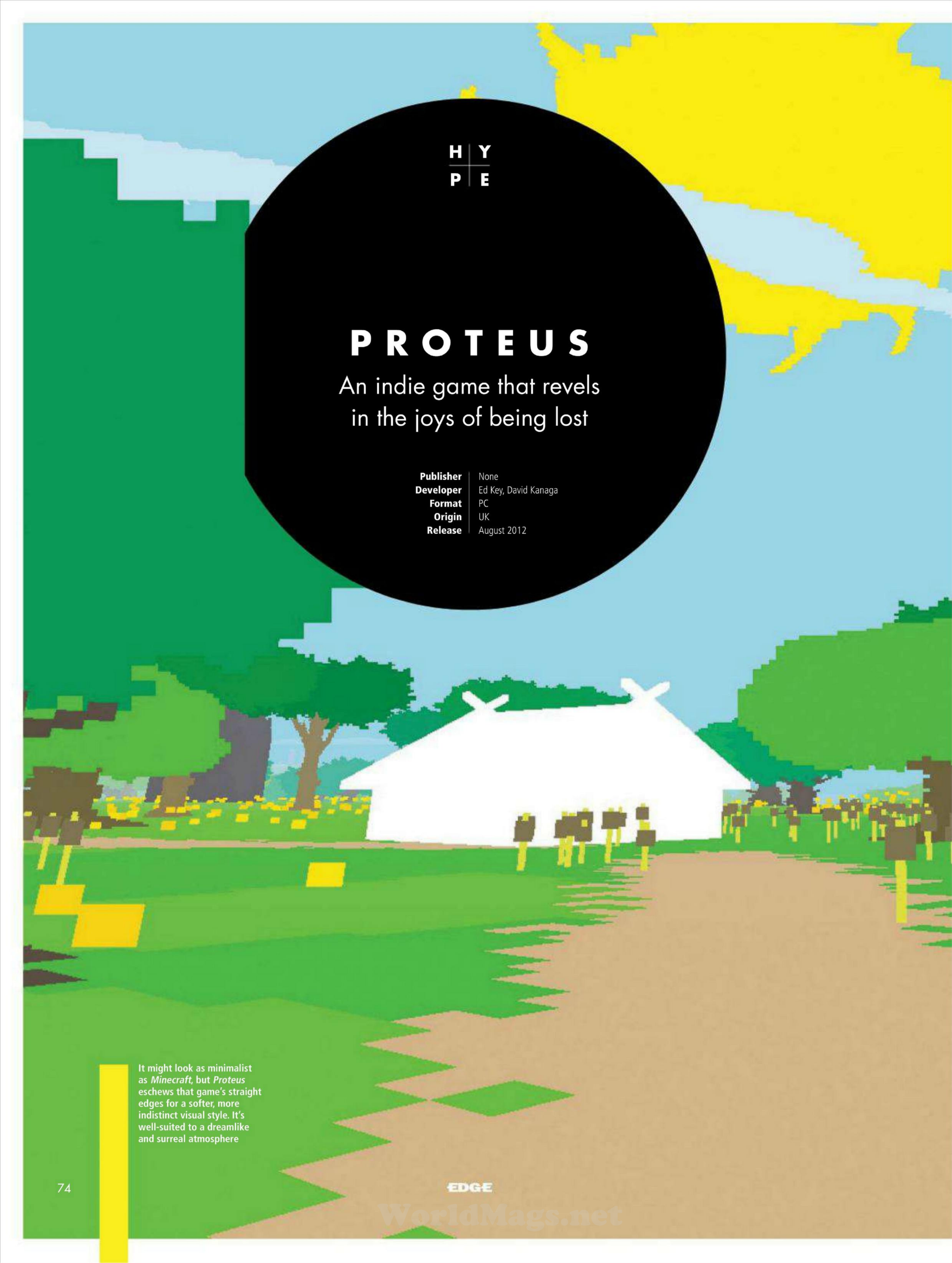


How do you design levels for a game where the player can't see anything?
It's tons of trial and error, mostly in terms of figuring out how people feel out the space, so there's a lot of playtesting involved. One of the things we found to be the most important was silhouettes, and details of objects that give you cues as to where you are. A lot of work went into making the barrel splat perfectly so you can get the outline of it, or the bench, which is a huge moment for people because it's the first time they see a human object. Making sure all those little details work together is the most important part, and fine-tuning expectations.

How do you go about creating a path through these environments when players have such little direction?
In the black-and-white part, things generally work out into a natural path. As long as we're providing little signposts along the way, we can generally get people to go where we want them to go. At the same time, though, we trust that people want to fumble around a little bit, so there are lots of spaces where they can do that. One thing that helps is having the swan footprints as a medium-term goal. When you have that to navigate by, it's kind of a relief to know that you can always go the right way, but there's room to wander from the path.

In terms of creating boundaries for the levels, what does the game use to tell the player an area is dangerous, rather than just having hard walls everywhere?
There's a huge range of different things we use to communicate that. A lot of times, water is a great natural boundary that we use, but fences and positioned foliage also do a really good job of telling the player [not to go somewhere].

A big part of the game's appeal is its sense of exploration, and the core design fits perfectly with that. Why make a game about discovery?
I think it kind of spawned naturally from the prototype. Ian's prototype was just a white box where you could splat black paint, and it turns out that the first five or ten minutes of that are incredible, and people are really engaged with their love of exploring new things and finding something new with every splat. We loved that, and wanted to capture it, but because it doesn't necessarily scale with just black-and-white painting we ended up taking it in entirely new directions that still have to do with spatial navigation. [In later stages], it's not necessarily paint and it's not all black and white.



HYPE

PROTEUS

An indie game that revels in the joys of being lost

Publisher	None
Developer	Ed Key, David Kanaga
Format	PC
Origin	UK
Release	August 2012

It might look as minimalist as *Minecraft*, but *Proteus* eschews that game's straight edges for a softer, more indistinct visual style. It's well-suited to a dreamlike and surreal atmosphere

Seasons pass in *Proteus*, and each has a distinct feel. Summer is the most teeming with life, and as autumn and winter slowly encroach on your procedurally generated paradise, it's hard to not to feel a kind of loneliness creeping in alongside them



Just in case *Minecraft* hasn't offered enough evidence that a contemporary game with basic, blocky visuals can make a compelling artistic statement, *Proteus* drives the point home with battering ram efficiency. Some of the most cutting-edge trends in modern game development are happening in titles that look as if they should be playable on a marginally upgraded Atari 2600.

Developed by designer **Ed Key** and musician David Kanaga, *Proteus* belongs to a burgeoning genre that hinges on ambient exploration. It opens with you floating in the water off the coast of a mysterious island, like a serene inversion of *BioShock*, but without any narrative context explaining how you got there. In keeping with their different schools of game design philosophy, *BioShock* nudges you aggressively toward its island by surrounding you with burning aeroplane wreckage, while *Proteus* simply waits patiently for your curiosity to get the better of you.

Key is quick to point out that the decision he and Kanaga made to leave out traditional gameplay objectives – score, challenges, fail states and so on – shouldn't be perceived as any sort of crusade to purge games of them entirely. He simply feels that there's room within the medium for people to pursue divergent approaches.

"I don't want to put [*Proteus*] forward as a manifesto at all," says Key. "I think it's interesting how the game turned out, because originally, before David came on board, I was thinking of it as some kind of kind of sandbox RPG-survival kind of thing. Then when the music came in, pretty much straight away we thought, 'What if everything has this kinda musical presence?' and that sense of feeling your way around the world. And after that we were kind of worried about 'Do we have to add any gameplay things? Why will people want to play it for more than five minutes?' But then it's strange how people have gotten so much more engaged than I ever expected."

Proteus can be seen as the videogame adaptation that JJ Abrams' Lost deserved, and its island (each game procedurally generates a new incarnation) blends the natural and the mystical in intoxicating fashion. Everything seems deceptively mundane on the surface.

Key feels there's room within gaming for people to pursue divergent approaches

Just after being washed ashore, we find ourselves wandering through a grove of brightly coloured trees. Some of them are pink as cherry blossoms are in spring, shedding little rectangular leaves that drift lazily down to the grass below.

We clamber up a nearby hill to better survey the rest of the island, and notice what appear to be signs of human habitation. There are brown, medieval-looking forts. There are ancient stone markers. There are statues in the shape of mythical-looking bird creatures whose function remains as elusive as the thick-headed stone torsos standing sentry on Easter Island. Though you can't enter any of the structures in the game, there's even a lone cabin whose hypothetical occupant is nowhere to be seen. There are no humans to keep you company, just animals – frogs, owls, birds, bumblebees and more.

Things occasionally turn downright weird. After night falls over the island, you notice a swirling dance of white lights around one stone circle. Stepping inside it causes time to lurch into a kind of time-lapse fast-forward. At one point the stars, which were once tiny pixels dotting the sky, began to bulge and pulse, turning circular and bulbous. There's a distinct sense of narcotic-tinged psychedelia, which should fuel interesting speculation among players.

The game's open world rewards and encourages exploration via both the pastel-hued impressionism of its visuals and Kanaga's gorgeous, reactive musical score; its synthetic tones morph depending on where you venture on the island. You can take screenshots in *Proteus*, of course, but they're called Postcards, and it's testament to its sublime visuals how often you feel compelled to preserve one of its frames for posterity.

"You have to want to explore [the island]," Keys admits. "Because you're not going to be given any kind of arbitrary reward for going ten metres forward or whatever." None of this should prove too problematic, because you definitely will want to explore *Proteus*'s island – trust us on that.



Nature walk

Upon starting up, *Proteus* asks you to watch out for animals on the island, mysteriously asking "What are they doing?" To be honest, we haven't a clue. At one point, a frog led us on a slow, hopping tour of the island, but the rest of the fauna seem rather uninterested in our presence. They're still the primary means by which the island is imbued with a sense of life, although it never seems sterile. We have felt their absence more than anything else, however. When one session with the game winded down and a wintry atmosphere set in, the animals were nowhere to be found, leaving us profoundly alone.

H | Y
P | E

RESET

The indie puzzle game that's redefining graphical expectations

Publisher | TBA
Developer | Theory Interactive
Format | PC
Origin | Finland
Release | 2013

Theory is planning for *Reset* to last about six to eight hours, but is still prototyping key gameplay elements, so we can't judge whether the pair will be able to hit the same visual mark

ABOVE **Theory has not created any concept art for the game. "We never needed to," Oksaharju claims. "We really knew the tone and style we wanted. From the first moment we discussed what sort of ideas we had for a game, what kind of things we wanted to explore, me and Mikko have been in complete harmony about what we want to achieve"**



The game's tech is all built by Kallinen. But Theory is disciplined with what it invests time in, focusing on setting *Reset*'s features "with as little complexity as possible", says Oksaharju

Theory Interactive's trailer for its debut game has received nearly 400,000 views in a matter of weeks, which is thanks in part to its powerfully sombre mood and astonishing visuals. More surprising yet is that the trailer, consisting entirely of real-time game footage, represents only ten months' worth of work from just two people: **Alpo Oksaharju** and Mikko Kallinen.

Cutting-edge technology and an old-school ethos to making games are the building blocks of Finnish videogame development, so it makes perfect sense that while it's Oksaharju who has a professional background in music, programmer Kallinen is composing the score for the game while his creative partner creates the graphics and story.

Both come from Futuremark, a Finnish developer specialising in 3D benchmarking software. "We really clicked right away, and had the same ideas for a game and how it should be done, so we left [Futuremark] to do it," Oksaharju explains. "Based on the response to the trailer, it seems that what we have created resonates with a lot of people," he continues.

The game in question is *Reset* – an esoteric firstperson puzzler inspired by *Portal*. The player must solve puzzles by controlling a robot in an small yet open-world city. It is set outdoors and built around a collection of "mostly spatial reasoning puzzles", according to Oksaharju, which you can solve in whatever order you choose. A time-manipulation feature offers shades of *Ratchet And Clank Future: A Crack In Time*, in which you can record several separate actions with the same character and then play them out simultaneously to solve a conundrum.

"You perform an action," Oksaharju explains, "then you have to go back in time and do other actions with your character. All of [the actions] are retained, and most of the time you need several versions of your character doing different things to solve a puzzle. You have some tools available, which you can use to manipulate things, but there's no inventory. Solving a puzzle does not open a new area of the city, that's not the motivation – they unlock parts of the story, and help you solve this whole meta-puzzle that the game is about."

But Theory's inspiration isn't just *Portal* – the pair hopes to emulate the success of projects outside of games that belie their lack of funding. "Movies such as Moon and Cube, which cost next to nothing, still look like they have incredible production values. We thought that there has to be a way to do the same in games," explains Oksaharju.

Achieving stunning visuals with great technology is possible with just a few talented people, he argues – it's creating a significant amount of content that proves problematic. "The key thing is that we are making a game and not a movie with some gameplay; we are not throwing huge amounts of new things at you every second like most FPSes," he says, arguing that *Reset*'s carefully restricted setting and its defined limits, will allow the team to deliver a polished game.

In the ten months that *Reset* has been in development, the Finnish games ecosystem has changed drastically, with the likes of Rovio dabbling in digital publishing, but Oksaharju believes Theory can finish and release *Reset* themselves. "It's an amazing time to be in the Finnish games industry, so who knows what could happen. But we have promised ourselves we will finish this game with the two of us, and allow nothing to come between us that could dilute our vision." ■



Technology to serve a purpose

Besides a straightforward production pipeline, Theory's technology concentrates on creating a "tangible atmosphere" and, according to Oksaharju, every feature of the technology is developed to support this. "This means advanced dynamic lighting using a combination of sunlight and skylight. There's also dynamic volumetric atmosphere with realistic light scattering in clouds, air and fog, as well as really advanced materials and shaders with special attention paid to specularity. The game world is full of different materials in the air, like dust and moisture, which have an effect on the lighting."

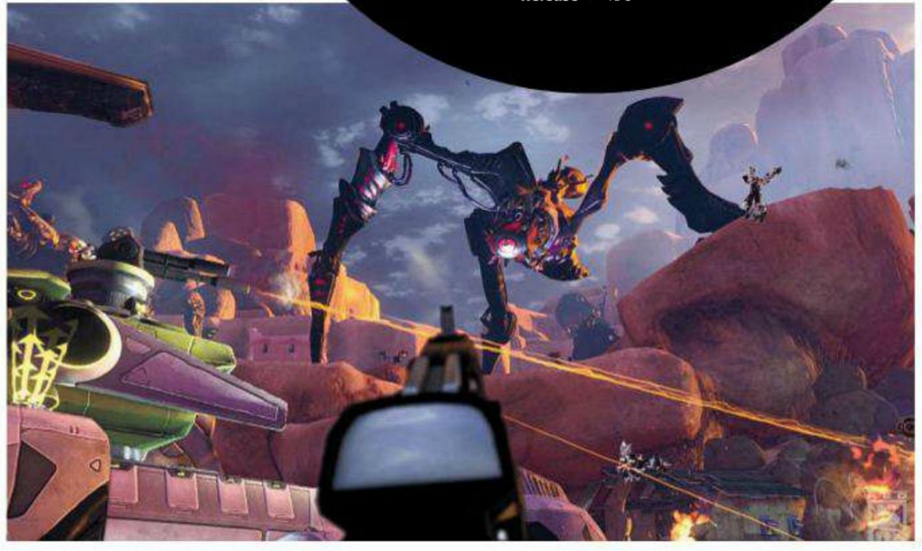


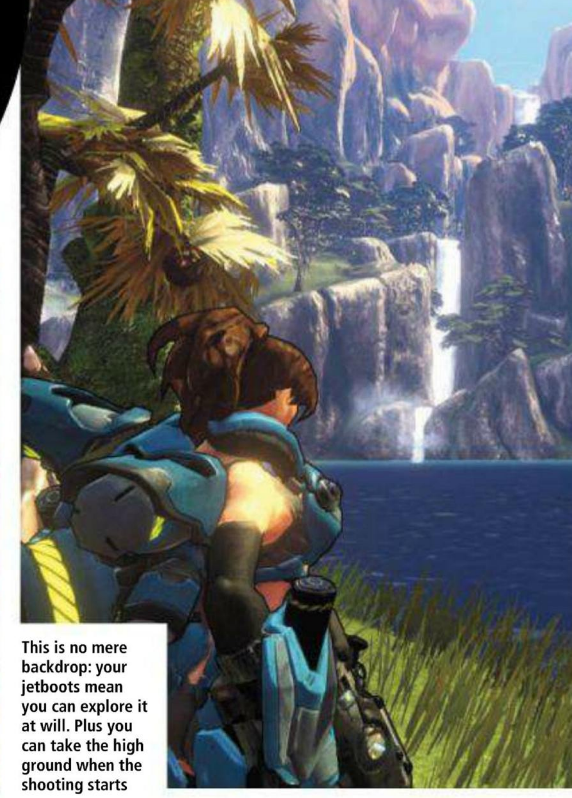
HYPE

FIREFALL

The sci-fi shooter MMOG that's aiming to redefine free-to-play

Publisher	Red 5 Studios
Developer	In-house
Format	PC
Origin	US
Release	TBC





This is no mere backdrop: your jetboots mean you can explore it at will. Plus you can take the high ground when the shooting starts

ABOVE **Bugs and creatures are a problem in *Firefall*'s world, but the game's true enemy are the Chosen, a technologically advanced race that's determined to wipe you off the planet**



Much has been made of *Firefall*'s cel-shaded aesthetic already, but the art direction certainly conjures a sense of both scale and personality

Firefall's opening map, the Brazilian resort of Copacabana, boasts some astonishingly beautiful views. Rock formations bulge from the landscape in dramatic columns. Palm trees and other jungle foliage break up the sandy brown terrain as the waters of the Atlantic glitter in the middle distance. It would be an idyllic holiday retreat if not for the afterburner roar of all those jetboots polluting the calm. With hordes of an alien race called the Chosen threatening the area, you and your fellow mercenary super-soldiers have been recruited by The Accord Military to suppress the threat.

Developer Red 5's MMOG isn't shy about wearing its console shooter inspirations on its sleeve. The post-apocalyptic resort of Copacabana has the cheerful cognitive dissonance of *Bulletstorm*'s setting, that post-curse Garden of Eden, and the cel-shaded visuals have already drawn almost as many comparisons to Gearbox's *Borderlands* series as that game had guns. Though it eschews the cerebral, dialogue-driven flavour of BioWare's *Mass Effect* games for a more cheeseburger-and-fries brand of action sci-fi, it's clear that *Firefall* shares a similar design ambition, mashing together the sci-fi shooter genre with the traditional stat-happy RPG.

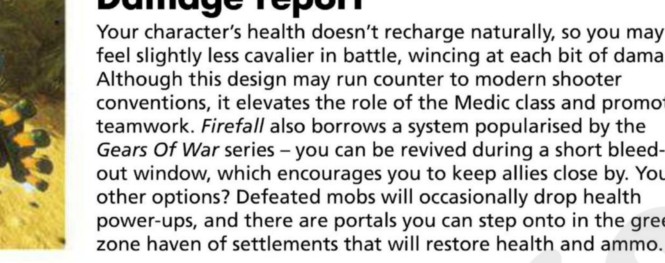
You feel that RPG influence in the character creation suite, the level grinding and the loot drops, but its most seductive gameplay application comes in the form of a robust item-crafting system. Killing low-level mobs will often result in a drop of base-level currency, known as Crystite, which can be used to purchase basic items. But if you want the best armour and weapons, you'll need to mine ore using Thumpers, which are effectively *Firefall*'s version of the probes you deploy while mining planets in *Mass Effect 2*.

BioWare failed to create a deep enough interaction to make the repetitive experience of harvesting planets engaging, but *Firefall* corrects this oversight by cleverly folding in a combat challenge as well. Using a special hammer that sends shockwaves rippling through the ground, you can detect the various types of ore buried in a given patch of earth. Once you've called in a Thumper from space to mine the ore you've found, you and your friends will need to fend off an onslaught of mobs until the device completes its extraction and lifts off.

Once you have the ore, you set the refining process in motion at a manufacturing terminal. This can take anywhere from 20 seconds to several minutes depending on the quality of the item. The enforced delay will send a slight shiver down the spine of anyone who's ever played one of Zynga's '*Ville*' games, but it also builds anticipation and excitement. You can even refine various types of ore at the same terminal to diversify your stock.

Red 5 has heavily reminded players that many aspects of the closed beta are works in progress, but combat already feels nicely balanced in terms of both weapon personality and how your character negotiates the battlefield. Mashing the spacebar with your thumb to jetboot into the air feels perfectly natural, inviting you to rain death from above. Those rocky columns aren't just decorative features of the landscape either – you can propel yourself onto one of them for a more secure vantage point.

While *Tera* has made its action combat a key selling point in its promotional material, the level of depth in *Firefall*'s airborne shooting feels like the new gold standard for action MMOGs. With the game in beta, it's a promise we hope it'll keep. ■

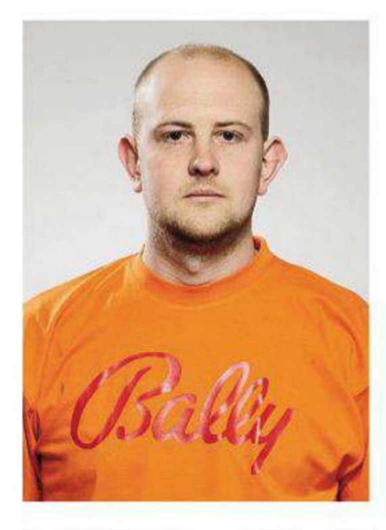


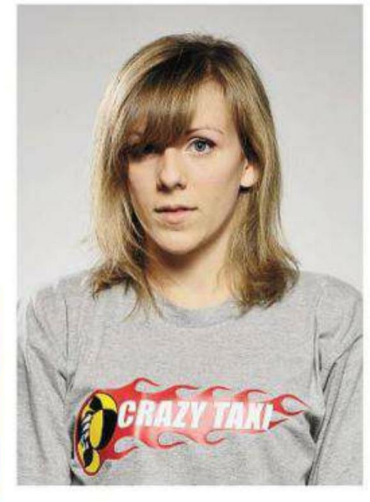
Damage report

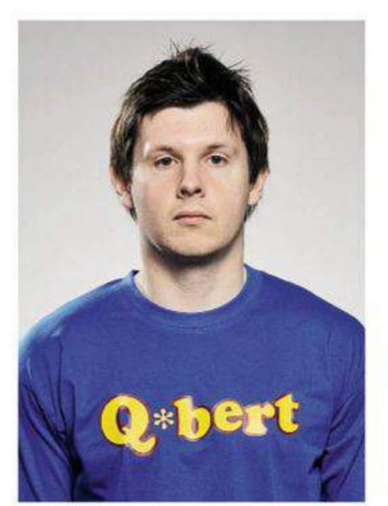
Your character's health doesn't recharge naturally, so you may feel slightly less cavalier in battle, wincing at each bit of damage. Although this design may run counter to modern shooter conventions, it elevates the role of the Medic class and promotes teamwork. *Firefall* also borrows a system popularised by the *Gears Of War* series – you can be revived during a short bleed-out window, which encourages you to keep allies close by. Your other options? Defeated mobs will occasionally drop health power-ups, and there are portals you can step onto in the green-zone haven of settlements that will restore health and ammo.

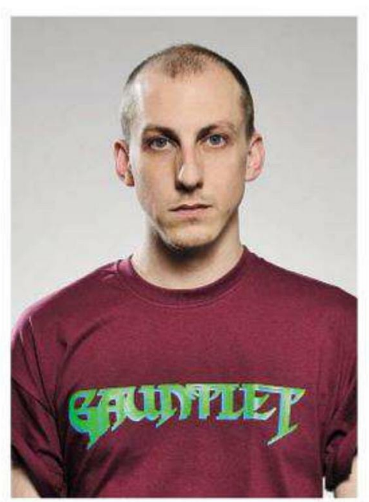
The Psychology Of...
Nostalgia

Blowing on cartridges, those halcyon arcade summers, the 16bit era: it's easy to long for the way things were. But why is the human brain so predisposed to yearn for the past, and how do companies make use of this to sell us endless reboots and pseudo-sequels?

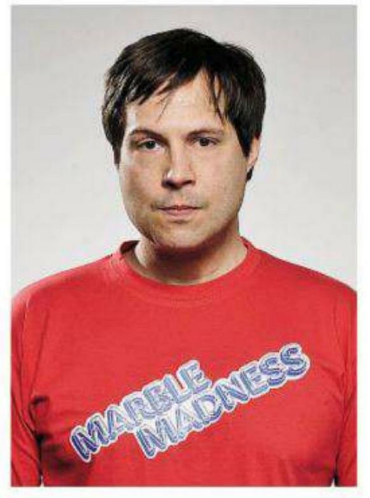




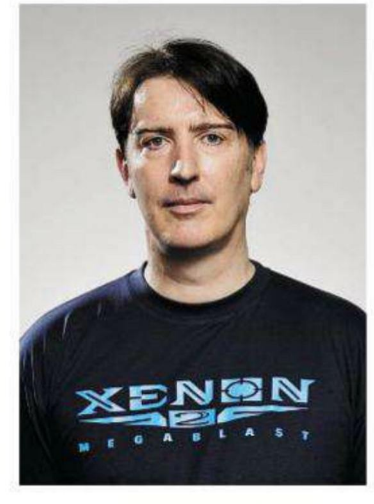




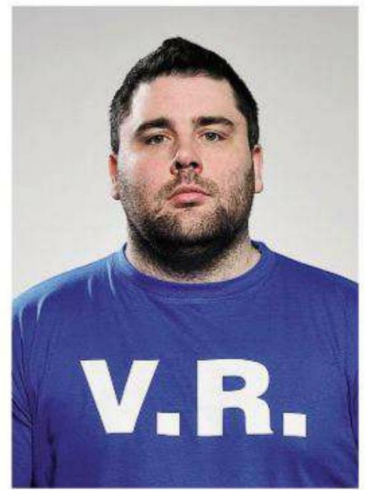


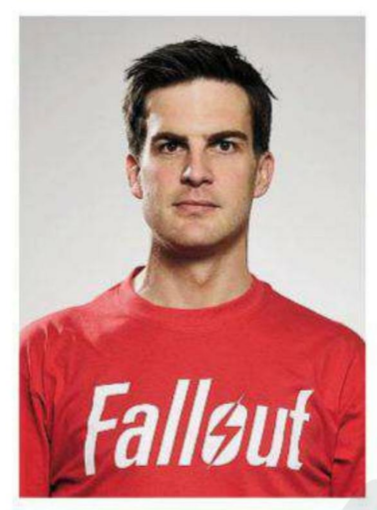




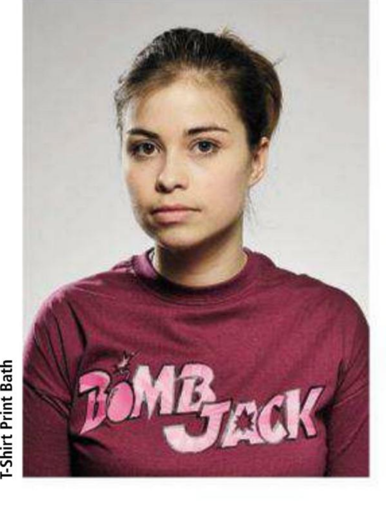


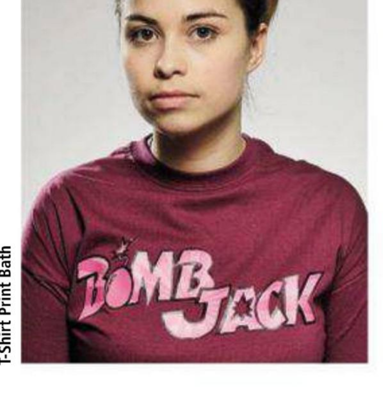


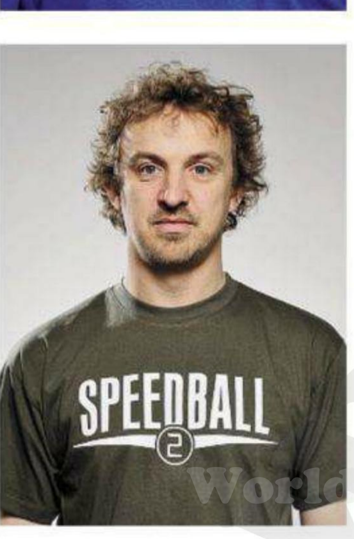
















T-Shirt Print Bath



Do you remember Odysseus, the protagonist of Homer's 2,800-year-old epic poem The Odyssey? Well, he's more relevant than you might think to all these modern reboots of older franchises, such as *XCOM: Enemy Unknown* and *Baldur's Gate: Enhanced Edition*. As researcher Tim Wildschut and his colleagues note in Nostalgia: Content, Triggers, Functions (published in the Journal Of Personality And Social Psychology), Odysseus's ordeal is a good illustration of nostalgia as it was originally conceived. The word itself derives from the Greek words 'nostos', meaning 'returning', and 'algos', or 'suffering'. Thus The Odyssey's 10-year span can be seen as our hero experiencing a huge bout of nostalgia as he struggles to return to the way things were and get back to his wife in Ithaca.

Much later, in the 1600s, a few Swiss physicians and fans of neologism coined the term 'nostalgia' in reference to a certain kind of homesickness. They saw the condition as a mental illness caused by yearnings for familiar climes on the part of Swiss mercenaries soldiering for foreign kings. But while they did well to put their finger on nostalgia as a mental state, these proto-psychologists weren't particularly good at figuring out the causes. For years they thought that nostalgia was caused by a variety of things, including little demons living in your head, changes in atmospheric pressure, or the incessant clamour of cow bells.

Fortunately, we've come a long way since then, and now appeals to nostalgia are everywhere, the subject being of particular interest to both psychologists and marketing professionals. Today, nostalgia is generally defined as a sentimental longing for the past, especially in reference to how things used to be better. And games have now been around for long enough that it's not uncommon to encounter people thinking wistfully about the days of blowing the dust off cartridge contacts, fiddling about with himem.sys files, and covering their 28.8k modem with a pillow so that their parents couldn't hear them ringing a friend to play some *Doom* deathmatch.

It's a state of affairs that isn't lost on developers and publishers. For every new gaming franchise that comes along, it seems there are two games that are remakes of properties that were popular when older gamers were kids. The trend isn't confined to games, either, with a plethora of other nostalgia-inducing goods hitting the market of late, such as the PT Cruiser automobile, Throwback versions of Pepsi (featuring the original formula and packaging), a remake of Hawaii Five-O, and a movie based on, of all things, the Battleship board game.

This raises a question, though: why do we get so nostalgic about videogames and other media from our childhood? Were they really as good as we remember, or are we seeing them through rose-tinted glasses? Researchers in psychology and consumer behaviour have studied these questions, and what they've found suggests that gaming may have the potential to elicit more nostalgia than any other medium before it.

First, though, we need to consider the nature of the emotion in question. Nostalgia is often experienced as fond remembrance made bittersweet by regret about things we've lost to the passage of time, so the place many researchers have chosen to start is with one simple question: is nostalgia a good thing? According to **Dr Filippo Cordaro** of the University Of Cologne, who studies nostalgia and consumer decision-making, "Immersing ourselves in nostalgic experiences can have many benefits. Things like fun times with friends and family vacations we remember fondly are common examples. The positive and social nature of these experiences means they can fulfil a few important roles."

Coping with stress and melancholy may be one of them. When Tim Wildschut and Constantine Sedikides from the University Of Southampton had study participants think about meaningful memories and write down what kinds of experiences or states made them feel nostalgic, they found that sadness was the most frequently reported trigger. In fact, simply putting someone in a bad mood will mean they're more sensitive to nostalgia-inducing stimuli, and also makes it easier to dredge up cherished memories about how things used to be. In this case, nostalgia seems to be acting as an antidote to sadness and feelings of loss, helping to elevate our mood. Meanwhile, other research has found that people who get nostalgic easily tend to have higher self-esteem, find it easy to trust others, and are less likely to suffer from depression.

So why does hearing the theme music of *Super Mario Bros.* or catching a whiff of something that smells like an old arcade help to bring us out of a funk and lift our spirits

when we have no way to recapture the original experience? Well, it seems that nostalgia isn't just about the place or the thing. "On a basic level, recalling these positive memories simply puts us in a more positive mood," explains Cordaro. "On a more complex level, recalling these experiences makes us feel a stronger sense of social connectedness with others. We've done some research looking at what people usually describe as a 'typical nostalgic experience' and find that people typically think about positive experiences in which the self is the protagonist, but they are surrounded by and interacting with others."

Nostalgia and social connections go hand in hand, then. Thinking about the loss of social connections, as nostalgia often makes us do, primes us to think about repairing those connections, maintaining current ones, or

We enjoy a mental pick-me-up by connecting our current selves to the big picture through our various accomplishments

establishing replacements. Wildschut and his colleagues also found that when asked to describe nostalgic memories, most people recalled social contexts and good relationships with others. And research on the power of music has found that song lyrics emphasising social relationships, including friendship, love, and familial bonds, were the most likely to induce nostalgia in subjects.

We tend to star in our nostalgic memories, it seems, but we usually have a supporting cast. You may reminisce about playing the original *StarCraft*, but the chances are you're most nostalgic thinking about throwing down with friends in multiplayer or at least bonding with them over the shared experience of discussing how you managed the campaign. For gamers, our most nostalgic memories probably revolve around sharing the hobby with others, making new friends, and enjoying a good couch co-op experience.

Social connections aren't the only important facet of nostalgia, though. A lot of its psychological weight comes from how it relates to our identity and how we maintain congruity between our current and past concept of ourselves. This is especially true when we think about our role in cultural traditions and experiences during our formative years. **Morris Holbrook**, a professor at Columbia University, and professor Robert Schindler have studied this side of nostalgia extensively. Holbrook notes, "We believe that there is a critical period, analogous to imprinting in a baby chick, during which we tend to form strong preferences for whatever objects we frequently encounter – say, music, movies, celebrities, clothing styles, automobile designs, or whatever. The timing seems to differ a bit from one product and one consumer to another, but our peak preferences tend to attach themselves to things we encounter when we are in the neighbourhood of 20 years old."

Experiences that occur during these periods when we are crafting our identities may come to mind later in life when we need a quick emotional boost or a reminder of what we have to be proud of. While this can be achieved by thinking fondly back to holiday dinners or school functions, we might create continuity between our current and ideal selves by remembering the special landmarks in the history of gaming that we were part of. Maybe you were really into *Ultima Online* or *EverQuest*, and thus see yourself as part of the birth of MMOGs. Maybe you used to read trailblazing gaming news sites, so you can feel like you helped support the burgeoning field of game journalism. Maybe you're terrible at *Battlefield 3* now, but how many of those kids beating you can say that they remember getting the *Desert Combat* mod for *Battlefield 1942* to work? In all cases, we enjoy a mental pick-me-up by connecting our current selves to the big picture through our various activities and accomplishments in the past.

But how accurate are those memories? The fact that we seem to engage in nostalgia specifically to make us feel better suggests that we may be unconsciously biased towards remembering things that make us happy and towards forgetting the things that don't: the so-called 'rose tinted glasses' phenomenon. Was using graph paper to make our own maps in *The Bard's Tale* really fun? Was manually entering IP addresses to connect to vanilla deathmatch games of *Quake* more of a pain

Formative milestones

Researchers have homed in on the periods of our lives in which we tend to form strong preferences, and that will tend to elicit nostalgia when we grow older. There's been little examination of games yet, but we get attached to music when we're around 24 years old, movie stars when we're 14, movies when we're 27 and TV shows when we're 22.

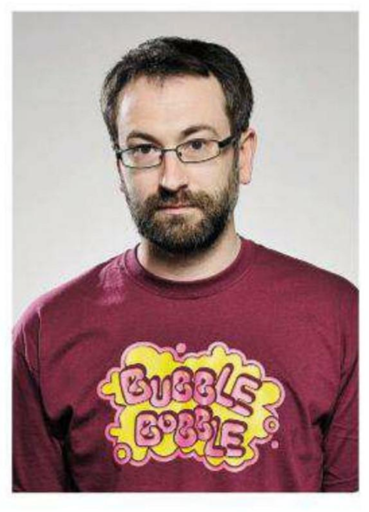


Dr Morris Holdbrook is the W.T. Dillard Professor Emeritus of Business at Columbia University. His research interests include marketing strategy, sales management, consumer behavior, and commercial communication in the culture of consumption


AMIGA

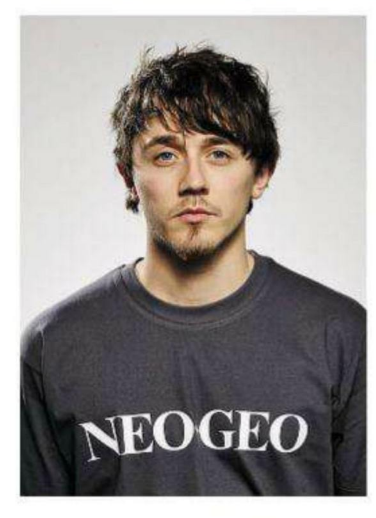



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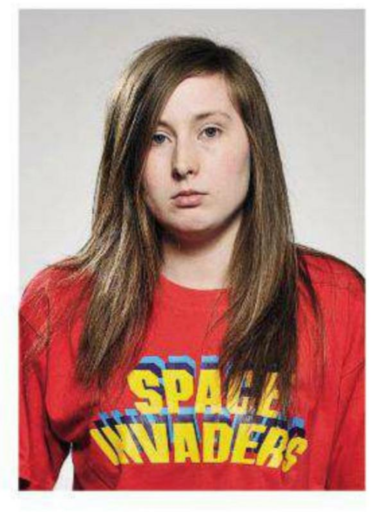

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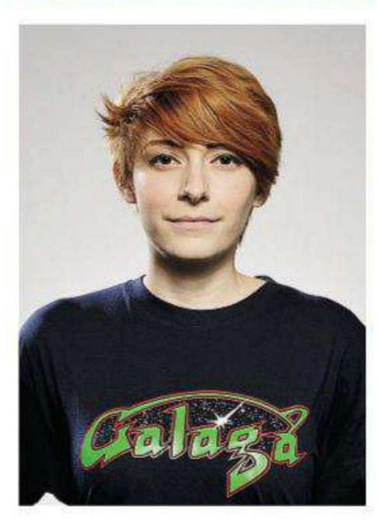

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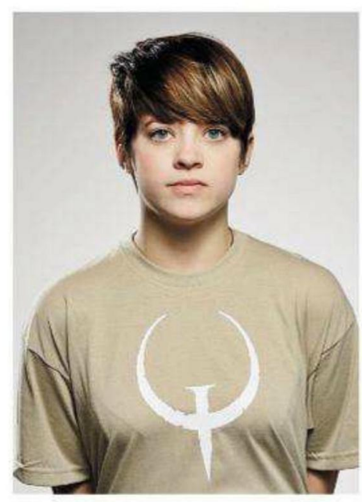


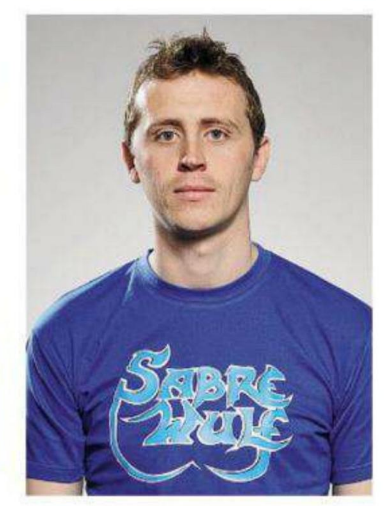

NEOGEO




SPACE
INVADERS


Galaga

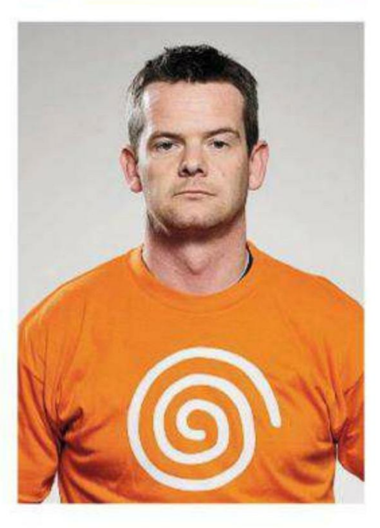



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than we remember? It turns out that human beings have a remarkable propensity to fool themselves. We generally require less information to confirm beliefs when they are consistent with our desired state of mind, and a substantial body of research has shown that we are predisposed to remember more of the good things in life, too.

An additional wrinkle in our psychological make-up is that the emotional footprints of positive experiences are thought to fade more slowly than those of negative ones, which is known as the 'fading affect bias'. Or it could all be a case of bad mental aim? Some researchers claim that vividly remembered events seem so great relative to the humdrum of the present because simply remembering something feels good. Jason Leboe and Tamara Ansons reported on studies showing that people tend

If nostalgia is tied closely to a sense of community, games have the potential to evoke it more than any other medium

to have a eureka moment when experiencing easy recall of information, and that kind of moment is innately pleasurable. It's just a cognitive quirk. What we tend to do, the researchers argued, is mistakenly attribute the pleasure not to the easy recall of the experience, but to the experience itself. While some standout experiences obviously were pleasurable, this kink in the human brain might bias us to erroneously remember such events as more positive than they were.

In the end, though, the rose-colored glasses phenomenon may be beside the point, even if it is true. "I would argue that it's actually adaptive, and part of what gives nostalgic experiences so much benefit for us," says Cordaro. "Usually when you're in the middle of a largely positive experience, all of the annoying little quirks and frustrating things about that experience are noticeable. But as that experience fades into memory, we forget about the minor annoyances and more vividly remember the positive aspects." And this is all well and good, since nostalgia's function is to make us feel better and happier with ourselves. If willful ignorance is self-imposed bliss, it's still bliss of a sort.

However, this does mean that marketers constantly appeal to our sense of nostalgia in order to sell us products, and one common tactic is to use packaging or music that was popular during our formative years. "It varies a bit from product to product and from consumer to consumer," says Morris Holbrook, "but we tend to form preference peaks somewhere in late adolescence – say, around 20 years old. If we assume that a marketer is trying to target 40- and 50-year-olds, then it might make sense to draw on objects from the 1990s and 1980s respectively."

Again, one reason this marketing works is related to a need for social connections. The Journal Of Consumer Research recently published a series of studies that directly tested this idea. Working on the hypothesis that consumption of old, nostalgia-inducing products restores a feeling of belonging, the researchers manipulated participants' need to belong to a social group and then measured their preference for contemporary or vintage cookies, soup, crackers, cars, movies, TV, and soap. They found that making people feel lonely not only made them prefer the vintage versions of goods, but letting their subjects tear open a package of cookies that were popular in their youth and eat them even decreased their feelings of loneliness.

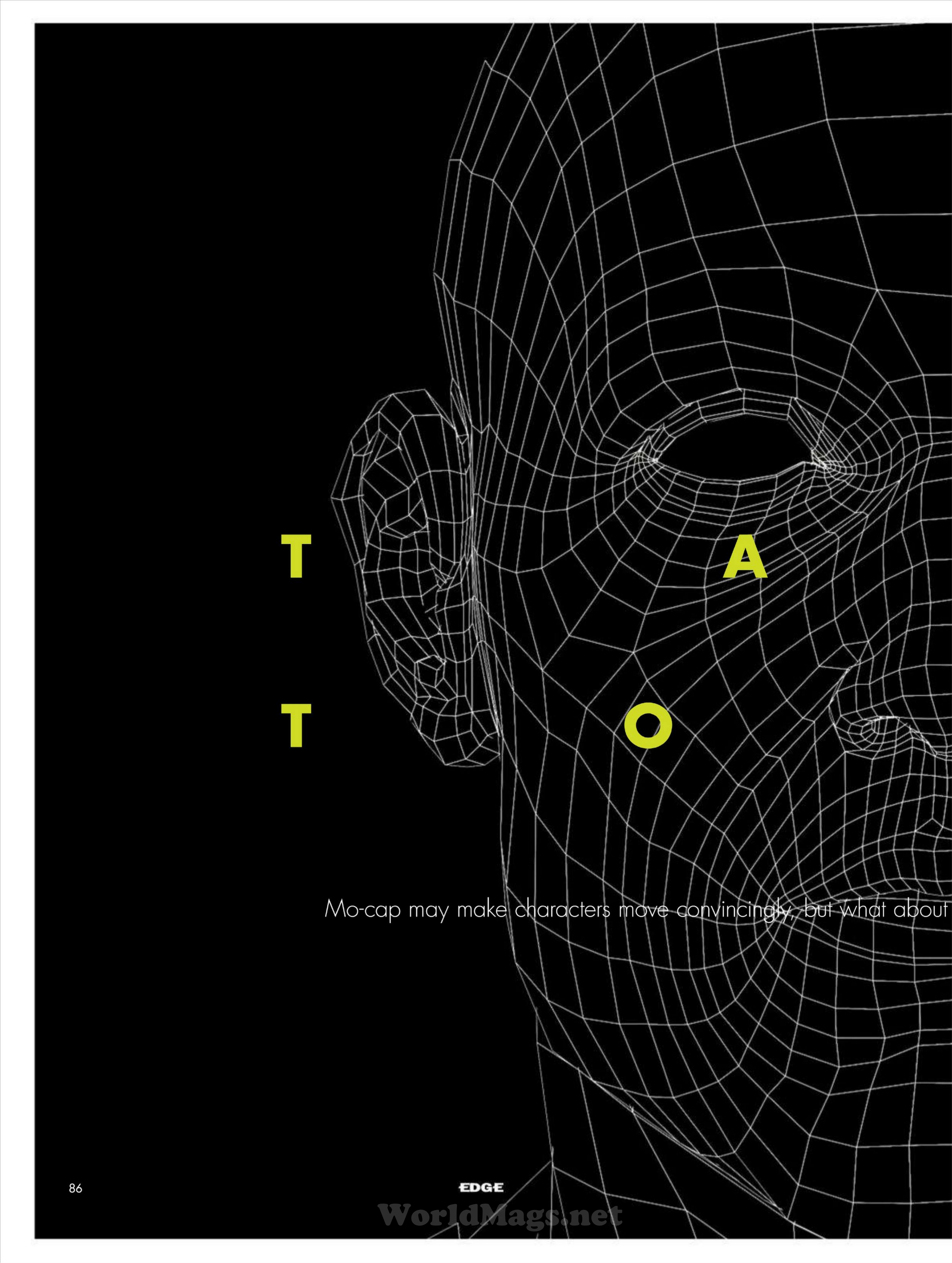
The implications of all this are interesting to consider for the specific and relatively under-researched case of videogames. If nostalgia is tied so closely to social connections and a sense of community, games have the potential to evoke it more than any other medium, because they are so inherently social and are becoming more so every year. Early games might have been shared experiences on the couch or via playground discussions in much the same way as movies or TV, but the majority of new games coming out this year will feature mechanics or tools that encourage players to share, compete, communicate, help and socialise. And for many games the interpersonal relationship aspect is central to the entire experience. The same can't be said of music, movies, TV, or other common vessels of nostalgia. It seems that games might someday boost more moods than anything else in history. ■

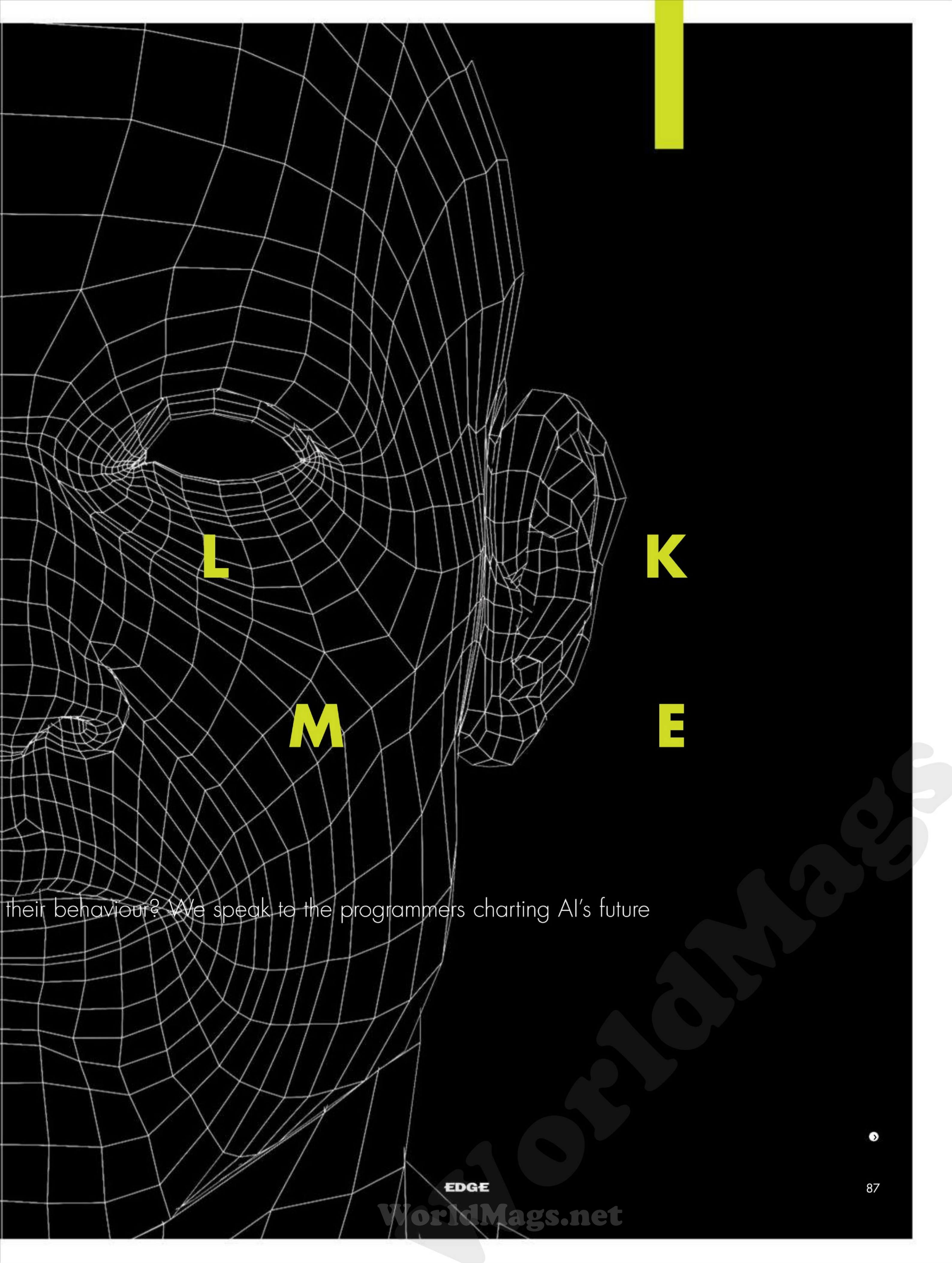
Treating disease

Bittersweet reminiscence in the form of nostalgia has been used for more than marketing. Some mental health professionals are using nostalgia-based therapies to treat those suffering from Alzheimer's disease. One study found that watching old videos or working with the same kind of tools that people used when they were younger improved patients' memory and communication skills.



Dr Filippo Cordaro works at the University Of Cologne, where he teaches about and studies nostalgia, consumer decision making, and games


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Mo-cap may make characters move convincingly, but what about
EDGE



their behaviour? We speak to the programmers charting AI's future



POP QUIZ

Fundamentally a puzzle game, each level of the University Of California's *Prom Week* has the player attempting to manipulate a social situation to suit a particular character in the lead up to prom night. Unloved nerds might need a date, for example, while another person may wish to put an end to social friction with an old rival, or fulfil an ambition.

Much like *Cotillion*, each of *Prom Week*'s network of characters starts with predefined relationships with the others. Here, they're defined on three levels: friendship, romance and 'coolness', the latter being a measure of compatibility that does not reflect either of the other two states. People fall out with your character if you hit on boys or girls they like or bully them, and respond poorly to erratic behaviour, such as bringing your banana slug to the prom. But they'll tend to like you if you're nasty about characters they don't like, or if you compliment their style.

The result of these minor, and shallow on the surface, interactions creates large change within the social group overall. This is announced to the player through individualised character dialogue, and reflected in a constant tumble of Twitter-like comments on the lower-right side of the screen.



Mike Treanor is a PhD student, and one of the designers of *Prom Week*



ideogames have journeyed from pixel sprites to near-photorealism, but our expectations for how characters should look have been satisfied more easily than our desires for how they should behave. The next generation of technology may be able to render the way light glistens on the meniscus of an eye, or scatters beneath soft skin, but will the owner of said skin be able to find her way out of a room without hitting herself with the door?

We're not placing bets yet. Historically, even our most basic hopes for convincing AI have been left unfulfilled: squadmates should ideally try to avoid spike traps rather than bumble into them repeatedly, for instance, or take cover on the side of scenery that isn't being riddled with gunfire. The real battleground for realistic behaviour will not be fought with bullets, however, but words.

Skyrim, *LA Noire*, *Mass Effect* and *Heavy Rain* are among the handful of recent games that place emphasis on the complexity of human interaction and the importance of empathy, but whose restrictive dialogue trees, cutscenes and canned character barks struggle to match the expectations set by the fidelity of their worlds. The glittering eyes and sharply defined pores of the future will only raise the bar further: we'll want unique characters in their hundreds who don't repeat responses, whose relationships are a palimpsest of previous interactions, whose conversation is peppered with idiosyncrasy, and who can respond to a constellation of possible prompts with the same nuance, dynamism and integrity as a real person. Wouldn't that be truly next gen?

"These sorts of things aren't represented in the model for even the most dialogue-heavy mainstream games," says **Emily Short**, a game designer renowned for psychologically complex interactive fiction. "You look at BioWare's large-scale RPGs, games with cutscenes, and either you've got a situation where something has been pre-recorded to be played through one way, or prefabricated dialogue trees. There's not an expressiveness to the way the dialogue tree mechanic works: you can only pick a choice."

This need not be so. Short herself has worked with former *Sims 3* programmer Richard Evans to set up experimental game studio LittleTextPeople, established to investigate the potential of dynamic, richly social AI. Its first game, *Cotillion*, has proved promising enough for *Second Life* developer Linden Labs to acquire the company. The game's a sort of Jane Austen novel simulator ('cotillion' is a dance from the era), a comedy of manners in which you pull the strings. Complex characters interact with each other while pursuing their own motivations, and the game narrates the subsequent entanglements via text, with paragraphs of description and dialogue generated in realtime, and subject to your manipulation (see 'Social engineering').

"Our project isn't so freeform that you can type in anything, but it's more fluid [than dialogue trees]," says Short. "The simulator Richard created has the potential to have people exhibit finely grained eccentricities, so it's possible to write characters who grunt when spoken to, or like to talk about themselves and take the conversational initiative more than they should."

During a talk at GDC 2012, Short outlined some examples: "There's a scene where the characters have been in a carriage accident in the middle of the night, and they've been left at the roadside by the driver of the carriage, who knows this neighbourhood is haunted. So he's freaked out and left. Elizabeth's just got out of the wreck, but she didn't see the driver leave. So the world model has given her the question: 'Where did the driver go?' Lucy knows the answer to this question, so she says, 'Well, the driver thinks this area has a bad reputation, so he fled.' Her particular phrasing of that is customised. Her character is supposed to be a little bit diffident, so she has her own way of saying that. Then there's a standardised response. The doctor says, 'Actually, I bet he left because he was scared of us being mad that he wrecked our carriage.' And that's tagged

as potentially meant to be humorous. And Lucy has the opportunity to decide: 'Do I find that humorous or not?' She does, so she laughs. This model gives us the opportunity to have very fine-grained characterisation, and to have characterisation where people express personal eccentricities through the style and the shape of their conversation."

By Short's own admission, *Cotillion* is more like acting or improvisation than playing a game. And being text-based, it remains at a distance from the current mainstream vogue. Part of that is simply budgetary ("Text costs nothing," says Short), but it is also by design: "The level of nuance to the performance of an action, the interiority of the character's emotions, and the possibility of having conflicting motives were prohibitively difficult to represent visually."

Short and Evans aren't the only explorers in this field, though – the University Of California in Santa Cruz has set up the Expressive Intelligence Studio (EIS) to cover similar ground. It made waves with 2005's *Façade*, a somewhat wonky social simulation in which you navigate a tense evening engagement with a fractious couple. It was an ambitious project whose potential was apparent, but faltered in the naturalism of its execution.

"*Façade* is trying to do so many things at once," comments Short. "It deals with three hard problems: how you process natural language input, how you represent character emotions, and then how you do AI-based drama management on top of that, and make sure the interaction leads to some sort of increasing tension, crisis and resolution. Each of those three things is so difficult, [and] there's so much more to be done on them individually before we get a clear idea of how powerful they will be when put together."

Nonetheless, *Façade*'s groundwork has been built upon by the studio's subsequent research projects, and the latest, *Prom Week*, is a social engineering game in which you navigate the flaring tempers and fraught relationships of an American school. It's been described as "the *Crayon Physics* of AI", a game in which the entire web of social interrelations is laid before the player.

"*Prom Week* has a very sophisticated model of what it means to be social," explains **Mike Treanor**, a PhD student, and one of the designers behind the game. "Actions aren't arbitrary, they make up a theory of social interaction, and to play *Prom Week* is to poke at that theory and try to understand it. Every interaction is taken in order to change the world state with someone else: I just complimented you to make you like me a little more. And that is the interaction in *Prom Week* – you choose which social exchanges characters make with one another."

> "Within the lines of dialogue, there are points where characters insert things that reflect who they are"

It's Machiavellian in the extreme (see 'Pop quiz'). In order to get the school Linux geek to become prom king, one of his many objectives, you have to rig the jury. You do this by building a friendship with the head of the prom royalty selection committee, which in turn requires you to bully a mutual enemy. And although each mission and its goals are related to a specific character, you can select any character onscreen and command them. Clicking on one character and then another gives you a set of possible interactions depending on the current relationship between the pair.

"Dialogue isn't authored for one character to say – any character could say [the words] if the situation's appropriate," says Treanor. "But within the lines of dialogue themselves, there are points where characters insert the things that reflect who they are and their personal social context. So for 6,000 lines of dialogue, you get what feels like 18 characters with unique things to say."

What sort of applications might these techniques have in big-budget productions? "*Prom Week* is a heavy social simulation," says Treanor. "But just the tiniest fraction of the things we account for – why characters like each other and what they think – could easily be incorporated into games like *Fable* or *Far Cry*, so that characters remember things that happened in the past, and that influences the choices they make with you at any given moment. There's no notion of history in characters' minds usually. But *Prom Week* is now a data point for anyone who wants to make a game with complicated AI."

"We need a few impressive demonstration pieces out there," says Short. "Then we can say, 'Look, here's the kind of thing you can do if you have characters who have a better

SOCIAL ENGINEERING

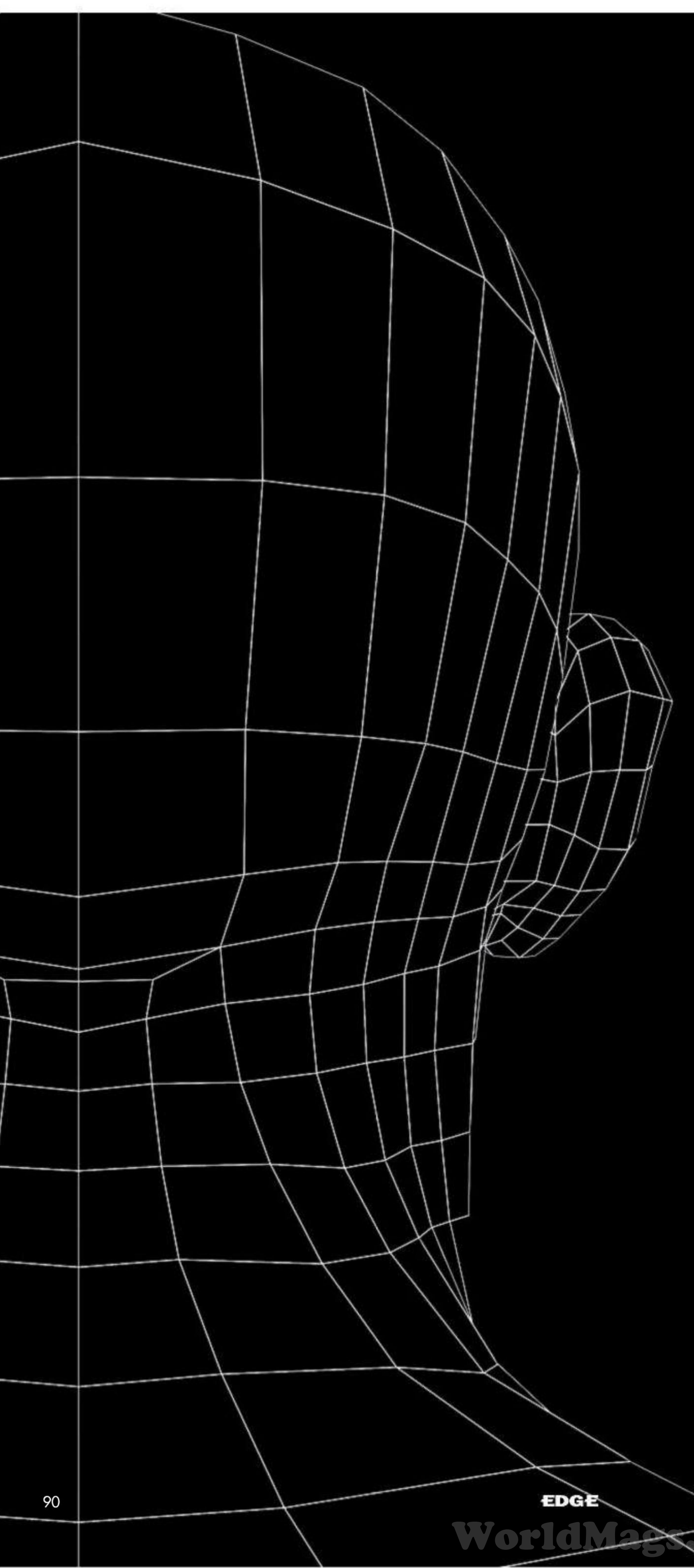
Perhaps the purest embodiment of social gaming yet, *Cotillion* (a project LittleTextPeople was working on before its acquisition) is designed to be played with others as well as singleplayer. In it, a character might offer a belief or pose a question about the world state, and others then get a chance to respond, suggesting a belief of their own, posing a question, raising another topic entirely, or giving a standard response. Layered on top is emotional significance given to beliefs, and traits that bias characters towards certain dialogue choices.

So, for instance, Miss Bates is tagged as talkative, and selects dialogue options that provide more opportunity to speak, perhaps even interjecting and moving the discussion to her preferred topics. "She loves talking about her niece, even though nobody else cares about it," says Short. "Then there's Mr Collins, who really likes to give people advice, is a big name dropper, and likes bringing up the topic of his rich patroness. We can do both of these things in code."

Mr Collins, whose didacticism comes from having the 'correcting' trait, may rub characters up the wrong way. Reactions are context-specific, too, and allow for some ambivalence: a character may have different traits depending on the setting. Evans uses the example of Mr Darcy, who is a loyal friend, but a grumpy ball guest. When he's rankled by a sycophantic remark, the game weighs up how well he is performing his various roles, and picks an apt response.



LittleTextPeople's Emily Short is a pioneer of new forms of interactive fiction



memory of what's happened to them, or behave in a way affected by their emotions.'"

She's clear, however, that not every game would be enriched by having such social complexity: "There's no point in having that in a situation where the NPCs are there predominantly to be shot at," she says. "But I could imagine a hypothetical game in which you had repeated battles with one character who was well-characterised, and had a robustly modelled emotional space that affected how he behaved. So it's not inconceivable to me to use an emotional model in that context, but for the most part I don't see that kind of thing happening – it's the wrong kind of granularity for the level of interaction that players are having."

Instead, both Short and Treanor are keen to use AI as a game's centrepiece, and thus explore entirely new genres. As Short explains: "I'm really interested in a different domain of human interaction, and seeing if that can be made into material for games and interactive stories. What if we have a game that's about conversation, negotiation or deceiving somebody?"

"The experience can be about understanding the system itself," says Treanor. "What aspect of the human condition do I want to make a game about? And then you just start on a whiteboard, modelling some theory of love or whatever. You do a prototype, realise it doesn't work, and go back and tweak the theory a little bit and tweak the game design." He's ready to admit that this will probably be more attractive to the indie scene than the mainstream, but even within the confines of existing genres he believes simple techniques can create much more believability in NPCs.

Treanor also reveals that other students at EIS are developing AI with direct applications for existing genres. "There's research being done by Anne Sullivan on quest generation," he says. "It looks at the world and what the player has done, simulating characters and their desires and what they're doing in the world. It creates a world in which what you do actually matters, and gives you the sense that characters aren't just empty husks filled with notes you can read." Other games to come from the studio procedurally generate levels tailored to the player's skill and actions, or even entire *WarioWare*-style rule sets based on simple noun-verb-noun inputs.

Finally, Treanor tells us about a sophisticated *StarCraft* opponent AI called EISbot. "Most RTS AIs play through scripts that are hand authored, but this has a deep model of how expert players actually think about and play *StarCraft*, and uses machine learning to analyse expert Korean players' play-traces."

Clearly, putting resources behind AI can offer huge boons, whether that's excavating entirely new genres or just giving us better conversation partners. AI could also shape game experiences, as Valve's *Left 4 Dead* director does, reacting to players' behaviour and ability to heighten the drama. So why are *Cotillion* and *Prom Week* two of very few games to push at the boundaries of AI?

Evidently, the work underpinning them is extensive, but triple-A studios have the budget and talent, and no shortage of ambition when it comes to pushing games to their graphical limits. Yet somehow AI has been given relatively short shrift in the mainstream gaming space – characters often can't even find their way around a rock, let alone through a believable conversation. So why is AI's potential frequently ignored? "AI can be invisible," says Treanor. "The only way you understand it is through interaction. With graphics, you immediately see where all that money, tech research and processor clock goes to."

"It creates a world in which what you do matters, and gives you the sense characters aren't just empty husks"

Short agrees: "With something like graphics, it's fairly easy to work out the criteria of what we would all agree would be an improvement. But the kind of AI I'm interested in, it's not always immediately obvious what it would lead to design-wise, and what sort of games that would produce. It's a completely new field, and that's risky."

At a GDC 2012 lecture, **Ben Sunshine-Hill**, an AI programmer who works for Havok, lamented that given a choice between radical new AI techniques and a better way of rendering beards, developers tend to throw processor cycles at the latter. He tells us that processor time isn't so much a problem as simply accommodating AI in the development process: "If you want to prototype a new graphics technique, you can do that very early on in the game's development cycle [and] get a proof of concept up really quickly. If it works, great, you put it in the game, and if it doesn't, well, you've not lost much. With a lot of the more interesting AI techniques we'd like to try out, you need to introduce them really early on in the development and then sink huge amounts of resources into the content necessary – like, 10,000 lines of dialogue may need to be recorded. And you don't get a good idea of how well it's working until pretty late in the process."

Another bottleneck is the voicing and visualisation of such a complex dynamic system – issues that the text-based *Cotillion* and cartoons of *Prom Week* circumvent, but mainstream games would have to face. "People expect full dialogue," says Treanor, pointing out that it will be some time before voice generation technology can render dynamic speech with credible emotion. "But there is also a problem with how you give players access to the AI system under the hood. How do you do that so players understand what knobs do what and why various things happen? The more complicated your AI gets, the more difficult those design questions get, and before you can throw it into a triple-A game they need to be answered."

Nonetheless, as Sunshine-Hill points out to us, "Productions that take risks on AI like this are very frequently rewarded." He cites *Fear* with its Goal-Oriented Action Planning model, or *The Sims*. "I hear they did pretty well for themselves. The rise of games like *Prom Week* have the ability to show larger productions just how much potential there is. The big studios will look at what these smaller indie productions are doing and notice that there are ready-to-use AI techniques that have been put together for them. But at the end of the day, I think there are certain AI techniques that won't be possible until the studios are willing to put them together with 100-strong content development teams."

If Bethesda, BioWare and Quantic Dream are serious about creating credible interpersonal drama in games, then this is where they need to be spending their money. A lushly rendered beard may make for an easy press shot, but believable characters are more than their finely drawn follicles. Behaviour is the new frontier, perhaps even the next generation's win condition – and it's a challenge that only AI can overcome. ■



DEPLOYING AI EFFECTIVELY

Gas Powered Games' **Mike Robbins** has seen how production issues can hinder good AI. "When *Supreme Commander 2* came out, the neural network code was completely broken," he says. "It was broken in such a way that it wasn't learning; it was essentially picking actions at random."

This wasn't for lack of will – the system's bugs just weren't caught. The later you leave implementing AI, says Robbins, the harder it becomes to find issues and resolve them. "It's the same with anything else – if you don't plan for it in the beginning then you can't just shovel it in at the end. You typically can't catch AI bugs until later in the development, when you've got assets in there and it's playable. One of the things I liked about our [now shelved] *Kings And Castles* project was that I was brought in to do AI with whitebox art. We didn't have a bunch of fancy assets; all I needed was some boxes running around the screen and attacking each other. If you do that, by the time you get to the beta testing phase you can have a fully fleshed-out AI system that you only need to tweak… If more studios took that approach, we wouldn't have all these weird AI bugs."



Ben Sunshine-Hill works for Havok programming AI. He spoke at GDC 2012



REVIEWS. INTERVIEWS. PERSPECTIVES. AND SOME NUMBERS

STILL PLAYING

Fez 360
There may be dreamlike quality to Polytron's game, with its surreal landscapes and unexpected transitions, but don't play when you're tired. It's a struggle for an alert mind to keep track of the perspective-switching trickery, or the meanings of arcane symbols requiring substitution ciphers. *Fez* is the kind of game the note section at the back of manuals was made for – although with this game being download only, a pen and notepad will have to suffice.

Hero Academy iOS
Cheerily tactical, Robot Entertainment's turn-based brawl has continued to improve with the addition of new teams, each with a unique style of play. The doughty dwarves might be able to take a pummelling, but it's the aggressive tactics of the Tribe we prefer. It's a game that becomes more complex as the roster expands, but it never sacrifices the feeling of deep-yet-inviting mechanics underlying attractive visual simplicity.

Fear 2 360, PS3, PC
It's been a month of slow-motion, from *Max Payne*'s flowing trenchcoat dives to *Sniper Elite*'s testicle targeting and *Ghost Recon*'s Sync Shot slowdown, so what better way to continue the trend than with the series that has harnessed the power of slow? Bolder, brasher and brawnier than the original, it's everything a sequel should be – a carefully iterated, cleverly constructed rollercoaster nightmare.

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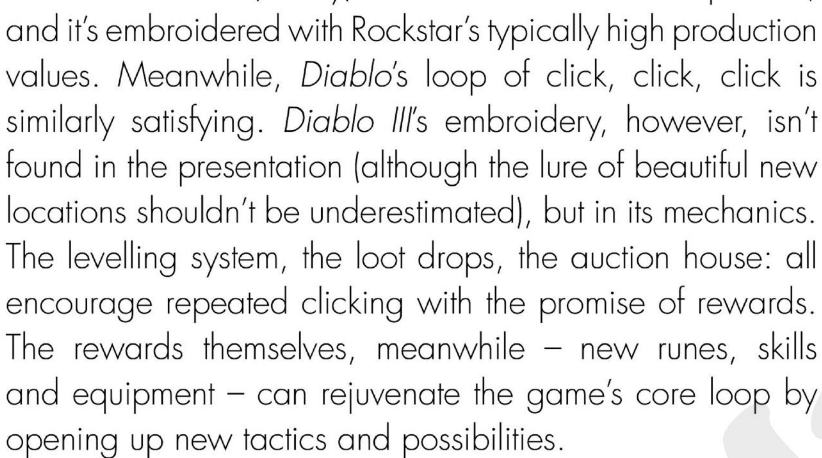
Click click bang bang

Two sounds filled the Edge office this month. The first was the angry sound of twin handguns spitting bullets over and over again – we've heard this before, admittedly, but never have our ears been buffeted quite as much as by the persistent cacophony of *Max Payne 3* (p94). The second, distantly related noise was the sound of a left mouse button being clicked, clicked, clicked, as we explored the deeper recesses of *Diablo III* (p98).

Both sounds hint towards the repetition at the heart of both games. *Max Payne 3* and *Diablo III* are simple titles, extravagantly dressed. At first, *Payne*'s loop of action – run, dive, kill – is robust and (mostly) resistant to its constant repetition, and it's embroidered with Rockstar's typically high production values. Meanwhile, *Diablo*'s loop of click, click, click is similarly satisfying. *Diablo III*'s embroidery, however, isn't found in the presentation (although the lure of beautiful new locations shouldn't be underestimated), but in its mechanics. The levelling system, the loot drops, the auction house: all encourage repeated clicking with the promise of rewards. The rewards themselves, meanwhile – new runes, skills and equipment – can rejuvenate the game's core loop by opening up new tactics and possibilities.

Diablo's advantage lies in being calibrated to reward investment with carefully meted out, tangible progress. *Max Payne 3* uses similar techniques to encourage longterm engagement in its multiplayer, rewarding players with new weapons, powers, and customisable avatars. And while the singleplayer might outstay its welcome, the first six hours are a tribute to the draw of solid mechanics coupled with Rockstar verve. Both show there's no need to fear repetition itself – the secret lies in what you build around it.





Max Payne 3

When Max Payne switches from a two-handed weapon to the handgun in his holster, he doesn't reach behind his back to plant the larger gun firmly on the adhesive outer surface of his jacket. It doesn't vanish inside the TARDIS-like confines of his pockets either, sent to that mysterious alternate dimension called the inventory screen. Instead, he loosely dangles the weapon by his side, while getting to business with the pistol in the other hand. You'd think this would make reloading tricky, but Payne has a system. He tucks the big gun in the crook of his arm, grabs and inserts a clip into his pistol with his freed hand, and lets the larger gun fall back into his grip.

The first time you see this, it's a delight, the smooth animation showcasing Payne's efficient weapon-handling skills, while also throwing down the gauntlet to games that think details such as the practicalities of juggling a videogame arsenal don't, or shouldn't, matter. By the fourth reload, it already looks more canned, but by then the statement of intent has been made.

Max Payne 3 is all about such details, its astonishing production values fashioning a world richer than a string of bowls and corridors designed to showcase Payne's athletic style of gunplay really needed to be. Turn on a TV in the empty back rooms of a football stadium and, once you've waited through a Portuguese-language advert for washing powder and the obligatory news report obliquely filling in the backstory, you'll find yourself treated to a two-minute snippet of a Latin telenovela, in which an absurdly vampish mistress intrudes on a scene of domestic bliss. Unless you speak Portuguese, you'll have no idea what the cast is saying, but the fact you don't need to is part of the joke.

Of course, previous games had their own in-universe programming (a trick Remedy returned to in *Alan Wake*), but watch the shows in São Paulo and it's hard not to be reminded of similar TV stations in Liberty City. The first *Payne* game to be developed by Rockstar might hew closely to its predecessors in gameplay terms, but it's clear the New York-based publisher has brought the full force of its world-building skills, eye for cinematic flair and deep pockets to bear here.

In Rockstar's hands, the hard-drinking, pill-popping Payne has been not so much reimagined as intensified, the last traces of his droll wit exchanged for yet harder-edged cynicism, and a greater, more explicit sense of dependency and addiction surrounding his substance abuse. He still supplies his signature noirish narration over actions as basic as walking through a door, and the dialogue still wavers tremulously on the line between pastiche and parody ("All this unfinished business and all I could think about was my unfinished Scotch," growls a returning James McCaffrey early on). Pop health-restoring painkillers mid-game, meanwhile, and the vivid colours of the favela are temporarily traded for

Publisher Rockstar
Developer In-house
Format 360, PC, PS3
Release Out now (EU, US), September 6 (Japan)

Rockstar has brought the full force of its world-building skills, eye for cinematic flair and deep pockets to bear



a muted, foggy haze. Even the cutscenes are filled with distractingly boozy blurs of smeared colour and double vision. The overall aesthetic does capture something of an addict's hazily recalled journey through the South American underworld, with those frequent bursts of slow-mo gunplay functioning like chemically induced moments of lucidity.

Normally, *Max Payne* plays like any other post-*Gears* shooter, the intrusion of a cover mechanic into this traditionally more gung-ho hero's world coinciding with slightly tougher enemies, more liable to drop Payne in seconds if he doesn't hunker down. As ever, though, once his adrenaline meter is filled he can enter bullet time, a slow-mo state that allows him to carefully pick targets and squeeze out dozens more rounds than his foes. While a press of the right stick will cause simple slow motion, a tap of the right shoulder will send Payne into an unhurried dive.

It's the latter that blends most intriguingly with the new focus on cover the period of near-invulnerability the so-called 'shootdodge' conveys, allowing for last-second dives for shelter. At times, the two systems are at odds, given that cluttered environments filled with waist-high walls aren't ideal to dive across. At others, they blend well, such as when Payne transitions from kneeling behind a wall to leaping over it, twin pistols in hand, or when he just happens to find himself in a slum filled with cover spots each spaced exactly one dive's length apart. You're at the mercy of level design, in other words, having to work out from the lie of the land which tactic you should lean most heavily upon. Should you misjudge it, however, you may find yourself in need of the new addition to the slow-mo manoeuvres family, the Last Man Standing ability. If Payne is carrying painkillers and gets 'killed', he has a few seconds of slow-mo invulnerability to take out his attacker. If he does, he'll be miraculously reborn mid-battle.

Combat is focused on prioritising targets and judiciously using bullet time to surgically take them out. Both *Max Payne* and *Red Dead Redemption* employ NaturalMotion's Euphoria tech to ensure that a baddie shot in the leg crumples to the ground believably, but Payne's shootouts with increasingly well-armoured foes leave little time for *Red Dead*'s playful experimentation. In fact, naturalistic animation has become an Achilles' heel for Payne – dive towards a wall and you'll snap out of bullet time when Payne knocks his skull on it, rather than sliding cleanly down the barrier as in previous games. It still couples with the slow-mo shooting to appropriately cinematic effect, however, allowing you to fully appreciate the Cronenberg-style holes you've made in someone's face while their head snaps back.

But get past the visual flair and grisly detail, and *Max Payne*'s gunplay is fairly straightforward. From



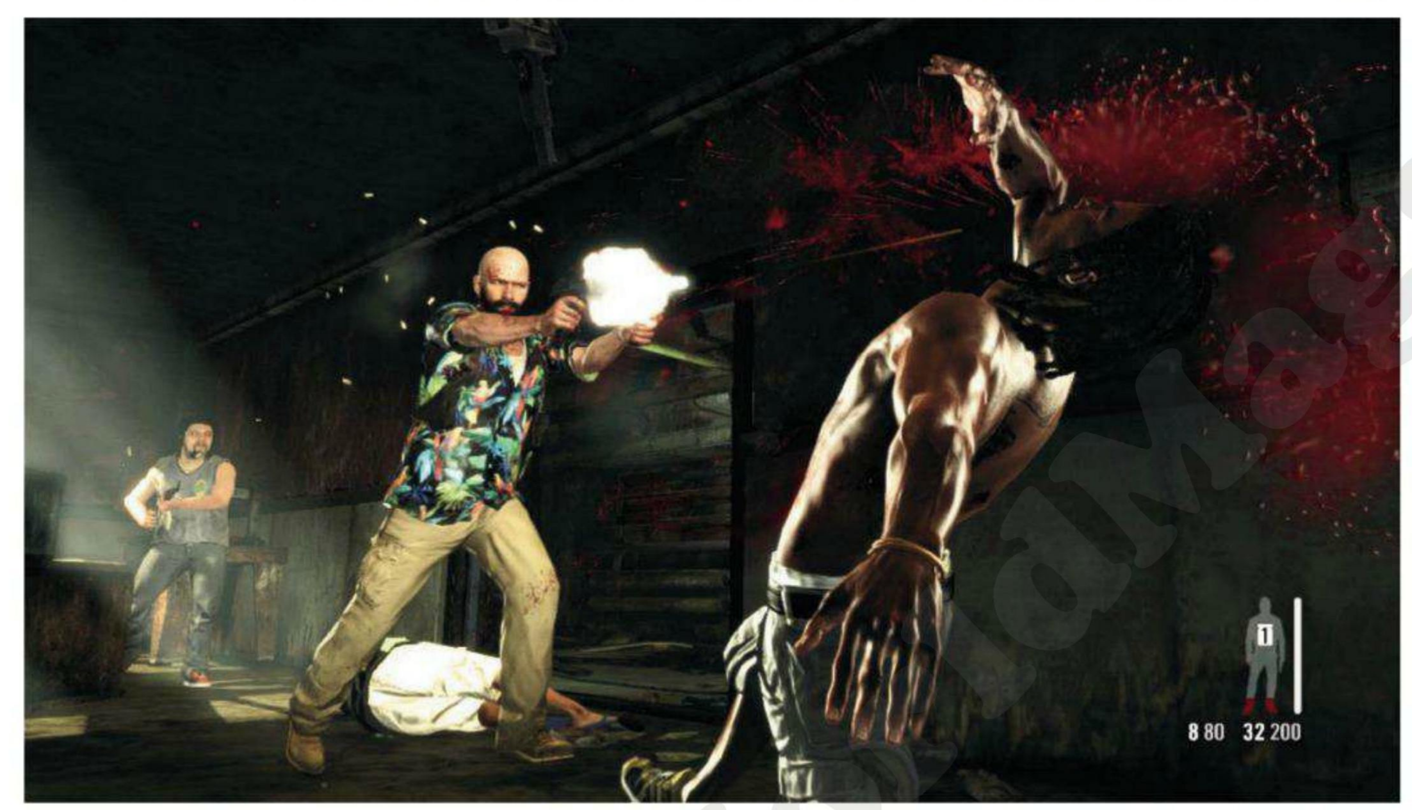


LEFT Glass smashes convincingly in *Max Payne 3*, and shards of it join flying papers and the other detritus kicked up by the crisscross of bullets across a room. It all looks even better when you can study the chaos in slow motion, of course

ABOVE The New York flashbacks explain how Payne came to trade his leather coat for a Hawaiian shirt, but there's no grand revelation or clever parallelism accompanying the dual structure. RIGHT Gang Wars missions take plot points from the campaign, and more closely examine the effects of Payne's one-man crusade to clean up the dirty streets of São Paulo



BELOW A completely gratuitous slo-mo kill-cam enables you to admire the effects of your bullets on a collapsing enemy, and even empty the rest of your clips into them should you so desire



ABOVE Never one to hold back, even Payne's melee moves tend to end with him blowing someone's head open in a shower of bullets. Getting in close and snatching a gun is essential if you run out of ammo, though

tutorial to credits, *Max Payne 3* refuses to play with its core mechanics. This means that aside from the occasional on-rails section or slow-mo set-piece, Rockstar is reliant on the story to keep players engaged. How effective a gambit this is will hinge on your response to Max's hardboiled schtick. He's not exactly likeable, and while the plot dutifully conjures a series of cartoony villains even more hateful than he is, it suffers from the absence of a strong supporting cast – Payne's sidekick, Passos, might be handy in a gunfight, but he's certainly no Chloe, Elena or Sully.

Ironically for a game with such clear cinematic ambition and so serious a tone, it takes a pair of high-pressure score-chasing modes to rejuvenate the campaign. The first, Score Attack, rewards headshots and stylish, slow-mo kills, while New York Minute turns each level into time trial, rewarding kills with extra seconds on the clock as you attempt to carve an optimal murdering line through its courses. Both of these modes require perfectionism rather than true experimentation, but once you've unlocked them there's no point returning to the vanilla story mode.

The irony of the singleplayer lacking variety is that the multiplayer's centrepiece mode is built around it. Gang Wars is a team-based gametype that begins with rounds of objective-based games before descending into a deathmatch, and the team that performed best in the previous missions starts with a points advantage in the final battle. It's a mode carefully calibrated to hook into some of the multiplayer's more intriguing mechanics, such as a Vendetta system that enables you to mark players who have frequently bested you (see 'Grudge match'). These bitter rivalries are mirrored by tentative alliances in Payne Killer mode, a king of the hill variant in which players fight over the roles of Payne and Passos. These characters get a health and weapon bonus, but are forced into competitive cooperation as they align themselves against the combined might of the other players.

All the multiplayer modes benefit from a curious interpretation of Payne's bullet time ability, one of many perk-like skills called bursts that players can equip, and which functions according to line of sight rather than affecting the entire map. Whoever activates the power gets a relative speed bonus, but anyone who can see (or is seen by) that player gets their reaction time dulled. It's a rejig that twists bullet time into an attack as much as an innate advantage, but it works surprisingly well in team-based modes with clear battle lines, with savvier players able to scupper the other team's charge across no man's land. Free-for-all deathmatches feel hectic and confused, however, since you're less able to predict the angles from which you'll suddenly be struck by a speed-sapping attack.

Max Payne 3 might solve the problem of how you manage to reload when carrying more than one gun, but detailing alone can't change the fact that this is a surprisingly conservative game from Rockstar. Its absorption of cover mechanics makes Payne feel more familiar than he should, but even then his signature tricks are over a decade old. This is a game about a world-weary killer doing the only thing he knows how to, and for all its spectacular action beats there's something apt about Max's fatigue.

7



GRUDGE MATCH

Get killed enough times by one player and you get the option to initiate a vendetta against them. Do so and they'll be highlighted on your map come your next spawn, with an extra cash and experience reward for killing them. If they best you again, though, they get the bonus as well as the smug satisfaction of compounding your humiliation. It's neat means of adding a dash of personal drama to a multiplayer round, and is even repeated on wider scale between crews (read: clans) if sets of feuding players are thrown together in a lobby.

Post Script

The unusual mix of genre cinema that colours Max Payne 3's world

Max Payne games have always had a close relationship with cinema. Their star's brooding narration – and the original's moody tale of revenge – has been borrowed from film noir, while the slow-mo action beats are heavily inspired by the Hong Kong action flicks of the 1990s. Meanwhile, the comic panel cutscenes of yore threw in a wildcard influence. In other words, the first two games were a hotchpotch of pastiches, but they worked. Why?

For one thing, Remedy couldn't have picked a better pair of conceits for an interactive experience. Payne's narration might annoy at times, but the simple and obvious convenience of a monologue is that it can run over gameplay without interrupting the flow. While other games were borrowing the visual language of cinema – stuffing cutscenes with flashy camera angles and impossible actions, or worse, marrying those actions to QTEs – Remedy found a cinematic trick that suited gameplay. If you're going to be stuck in Payne's company and looking over his shoulder, why shouldn't you hear his thoughts? The irony here is that narration's literary origins means it can sometimes feel tacked on in a film, but the hyper-stylised world of noir is a place where it works. Especially in a game setting, where an editor can't easily snip out scenes of the protagonist running down stairs, or other moments of dead time.

The absence of an editing room is also why bullet time is another canny loan from the world of film. It's a cinematic trick that relies on a long single take, so it works just as well, or even better, in interactive form. Payne never really acknowledges the unusual presence of his time-slowing super power – in fact, in *Max Payne 3* he frequently dismisses himself as an unremarkable thug for hire. Thus we're forced to conclude that he doesn't know it's there. Like painkillers healing bullet wounds, it's an abstraction for the sake of gameplay, highlighting Payne's superior instincts (he occasionally comments that time seems to slow when all hell breaks loose, or similar) by making tough situations easier for the player to escape from. But it's a stylistic technique, too, lending gunfights a dash of John Woo cool without confusing the player the way other filmic tricks – Bourne-style shaky cam, for instance – inevitably would. It casts the player as a director as much as a cast member, allowing you to dictate the rhythm of an action scene as well as what happens within it.

There's a contrast in *Max Payne 3* between the legacy of cinematic tools that Remedy brought to the series, and the new ones introduced by Rockstar. The graphic-novel-style presentation of cutscenes has been abandoned in favour of a 'motion comic' style, which means that random snippets of dialogue are stylishly splashed almost, if not exactly, like a speech bubble across in-engine cutscenes. However, the direction of the scenes themselves can lean heavily towards the woozy. Colours become oversaturated, and solid frames divide hazily into multiple images, and this drunkard's vision occasionally spills over into the start of interactive sections as well. At times, it can feel both overproduced and distracting, but the contrast between the bleary narrative sections and the relative clarity of the action itself is powerful.

If you're looking for the origin of the new cutscene style, you can probably find it in the cinema of Payne's new adopted home. Whereas the first *Payne* games told a typically noir story in a typically noir setting, *Max Payne 3*'s sojourn to South America has required a different set of influences, most notably the overactive editing of Fernando Meirelles' City Of God and sun-soaked hues of José Padilha's Elite Squad films.

> The contrast between the bleary narrative sections and the relative clarity of the action itself is a powerful one



But despite getting the delirious visual style dead on, *Max Payne 3* suffers from a culture clash in its influences. City Of God and Elite Squad are both politically charged films, their anxiety over the encroachment of drugs and crime into the slums of South America a tangible presence behind every action scene. *Max Payne 3* does understand this: Payne himself grumbles about the rich-poor divide; there's a scene-setting walkabout midway through the game, not unlike *Uncharted 2*'s village section, where you get to see the city's poor working and children playing; and as its plot winds its way to a conclusion, the stark desperation of the inhabitants of São Paulo is thrown into sharp relief. The problem, however, is that a noir protagonist has stumbled his way into a socially charged narrative – and he's not quite sure what to do once he's there.

To give credit to Rockstar, Payne's status as an invading gringo, an obnoxious tourist out of his depth and frequently caught up in situations he doesn't understand, is regularly acknowledged. But it can't change the fact that we're viewing the plight of São Paulo's urban poor through the eyes of someone entirely disengaged from them. None of the real victims of *Max Payne 3* villains gets so much as line of dialogue. Payne, meanwhile, filters their entire struggle through his particular brand of self-pitying monologue. He's a self-styled avenging angel for the suffering of others, but his suffering is what gets the most screen time.

One of the earlier New York flashbacks starts with Payne drowning his sorrows in a bar. And it's hard to shake the feeling that this is where Payne is most at home. Rockstar's attempt to explore a setting – and the suffering within it – often ignored by other game makers is typically bold, but it chose the wrong character with which to do it. ■

Diablo III

Diablo III benefits from great writing. Not necessarily in the narrative or dialogue, both of which offer the same old gleefully stagey stuff about warring angels and ancient prophecies. No, it has great writing where it matters: in the names of its class skills. Wrath Of The Berserker, Rain Of Vengeance, Mass Confusion – here's where creative effort has been spent. Here's where you can see the density of pulpy exuberance that ten years of development can provide.

As it is for the writing, so it goes for the wider game. *Diablo III* is defined by its skills, and by the characters who unlock them. With five vividly distinct heroes to choose from, Blizzard's returned to the dungeon-crawler with rebalancing in mind. Enemies drop the same coins, shields and magical trousers when you hit them, but it now seems like a minor concern compared to your own progression. *Diablo*'s still a fruit machine, but it's far more rewarding to step away from the randomness and approach it as a series of decisions. Which power now, which one next?

The biggest decision comes right at the beginning: who to play as? The answer, of course, is everyone eventually, but that doesn't make selecting your first class any easier. Seek the standard all-rounder for that initial playthrough and you'll discover that there isn't one. The Barbarian, for example, is the melee tank rendered seismic. He's handed the bone-shaking Leap and Earthquake, the latter of which shatters the ground beneath him and brings lava oozing to the surface. However, Ancient Spear makes him surprisingly good for distanced play, since a quick tap of the action bar can harpoon mobs from halfway across the screen, while Whirlwind twists him into a tornado of blades, spinning around like Taz the Tazmanian Devil. Even core skills such as Frenzy bring to the fore leftfield ideas such as incremental speed boosts, each strike diminishing the cooldown before the next. The spirit of Conan is hard to locate within this dynamic, scene-stealing demi-god; he's not the straightforward option you might expect.

The Wizard's no more traditional: a youthful mage who plays like a spry angel crossed with a Tesla coil, firing frosty lasers and linking enemies together with lattices of electricity. Decked out in a schoolgirl ponytail and a bright sash, she chucks Magic Missiles like she's pitching baseballs. And while she's built for range, she's an uncommonly hardy tank if you weight your deck with defensive and area skills.

After that, things get really creative. The Demon Hunter is Batman with a Gatling gun, a dark knight of traps, bows and grenades who rolls into combat and dashes between shadows. The Monk, meanwhile, mixes elements from healers with moves you'd expect from Capcom. Seven-Sided Strike rattles him between groups of enemies, and Lashing Tail Kick unleashes a powerful knockback attack that's accompanied by the sound of a jet engine. Then, of course, there's the Witch Doctor, the weirdest and most contradictory of the bunch. He's a confusing blend of ranged and melee attacks, direct and indirect, and each new power represents another trip to the world's strangest pet shop, summoning spiders, firebats, and zombie dogs that scamper after their master in a disgusting parody of the real thing.

Publisher Blizzard Entertainment
Developer In-house
Format PC, Mac
Release Out now


www.bit.ly/JlkVZn
Screenshot gallery

Stat-tweaking, loadouts: the campaign is both laboratory and sweetshop, offering depth as well as fanboy excess



There's plenty of fun to be had as you use classes together in the churning muddle of co-op – letting a Wizard freeze a group in place, say, before a Barbarian sends them flying – but the addition of runestones ensures that heroes offer endless entertainment for solo adventurers. Runes unlock gradually as you level, allowing you to flare each power in unusual directions by slotting them into sockets. In a game built upon a series of incapacitating choices, they offer some real dilemmas – do you want that Cyclone Strike to be explosive or heal? Like the skills they enhance, runes can be reset at will, allowing you to play across the entirety of a class at once. *Diablo*'s always been a complex game powered by simple things, and to impulses such as greed and violence you can now add curiosity. Stat-tweaking, loadouts, bespoke resources: the campaign is both laboratory and sweetshop, offering depth as well as sugary fanboy excess. The end result is an embarrassment of rewards, an endless nested arrangement of gifts, levels, abilities, items, runes, sigils, achievements, and AI followers to play alongside.

If there's a casualty to all this generosity, it's the loot system, and particularly the arsenal. Assaulted by feisty class powers on one side and sabotaged by an in-game auction house that allows you to trade items on the other, what you're holding in your hand has far less impact than it used to. Each weapon still has a distinct feel, but you're not likely to experience much of that as you map gaudier pleasures to both mouse buttons and move through the game performing glissandos on your recharging action bar.

This matters less than you might expect, though, partly because the skills are so dazzling, and partly because the rest of the game has evolved alongside the classes. *Diablo III* is filled with marvels – its fantasy world has been redrawn in rich colours and mineral textures, eschewing po-faced Tolkien influences for the pulpiness of a horror comic as it paints its forests and oases in deep turquoises and throbbing reds. These environments provide pacing as well as atmosphere, and quests send you between towns, vast explorative areas, and a variety of internal spaces that defy the 'dungeon' classification. Blizzard's tilesets can handle anything from the balanced architecture of cathedrals to the organic sprawl of spiders' nests, and it's nearly impossible to tell when you've switched between designed landscapes and randomisation.





ABOVE Each class comes with skills for defence and escape as well as ones for damage dealing. Given the enthusiasm with which mobs swarm you, it's a smart system that allows you to tackle trickier dungeons alone



TOP For all its colourful brilliance, *Diablo*'s skills are lumbered with a slightly awkward interface that suggests you have to bind certain skills to specific keys. In reality, you can do what you want, though it means a trawl through the options. ABOVE Blizzard's game looks good even on the punier machines that support it. There are no better artists working in fantasy gaming at the moment, and the mixture of archetypal elements and unusual detail is wonderfully balanced. RIGHT The first few levels should zip past in the space of an hour or so, and will leave you with a couple of decent skills to pick through along with your first runestone. It's not hard to work out where the progression curve came from



ABOVE **The cast of heroes in *Diablo III* tend to feel like real characters as much as ingenious congregations of stats. The Wizard's mixture of power and inexperience lends her an air of youthful arrogance, for example**

The game's filled with detailing, too, from midnight springs turning jerry-rigged waterwheels to useful clutter, such as walls and chandeliers primed to collapse on your foes. The monsters, meanwhile, are a wonder to behold and a joy to destroy, whether they're Writhing Deceivers (fat, snake-bodied menaces wriggling on scaly bellies) or Grotesques (tottering doughballs that explode when killed and can set off chain reactions). Dune Dervishes, meanwhile, are spectral hard men who spin at you with bladed skirts. They're joined, in the space of just a single area, by a set of gruesome delights bearing names such as Gore Harrier, Spine Hewer and Copperfang Lurker. There's certainly nothing wrong with *Diablo*'s imagination.

Step back and you'll find a game that's learned lessons from *WOW*, whether it's the scrolling timeline that blends player chat with NPC dialogue, or the ease with which you can connect with friends, leaping into another game at the click of a button, trading, fighting, and then disappearing again. Many of *Warcraft*'s social interfaces transition across almost unchanged, and you can see the knowledge Blizzard's accrued from running an MMOG in the headlong rush of the campaign and the cruel entanglement of its compulsions. It's there in the way a quest leads you past side missions or random events, or the reward schedule that follows a separate rhythm to the plot. Crucially, it's visible in the fact that Blizzard approaches balance in a manner that sees you orbiting the right level, ensuring you're either slightly underpowered for the next area, so that battles are tense and exhilarating, or slightly overpowered, meaning brawls are almost shamefully satisfying.

Perhaps *Diablo*'s learned too much from *WOW*, in fact. Its least lovable aspect is its mandatory Internet connection. This protects Blizzard from piracy and may help to slow the spread of auction corruption, but it casts out mods and opens the door for frustrating disconnects and freezing. This is a singleplayer game that you may struggle to load at first due to busy servers, or because America just woke up and everyone has logged on at once. It's a corporate decision that affects you on a personal level, and so it's hard not to see it as an imposition, an insult, and a worrying precedent. More immediately, Blizzard's approach is just intensely disappointing: *Diablo III*'s an amazing place, and it's a shame that you'll never achieve the full sensation of ownership over it.

Even then, it's hard to stop clicking. You may think you know *Diablo*, but you don't know it with this level of polish, from the clean brilliance of interlocking skills and classes to the sheer amount of chaos the game's comfortable with conjuring in its later dungeons. It's a testament to what money and confidence (Blizzard's own equivalent of mana and health) can do. You'll sense those long years of development in characters that suggest a certain approach while supporting myriad different playstyles, and in enemies that aren't content to simply wander around, but spill from ruptured tombs or burrow out of the dark earth.

To the disinterested, *Diablo III*'s another game about hitting monsters and looting their corpses. Such a characterisation misses the wider point, however. It's also the best game about hitting monsters and looting their corpses that has yet been made.

9



SHOPPING AND DROPPING

If the regular unlocking of *Diablo III*'s punchy, endlessly colourful class skills takes some of the shine from its loot game, there's always the in-game auction house to get you back to the slow business of picking through drops. At the time of writing, the controversial real-money auction house had yet to go online, but the gold version is already proving worryingly compulsive. It's the process of bidding rather than any thought of striking it rich that makes it so entertaining most of the time, since *Diablo III*'s hardly timid when it comes to handing over gold in the first place. Once the option to make real cash opens up, however, it will be interesting to see how many of the system's more vocal critics will be able to stay away.

Post Script

Interview: Julian Love, lead technical artist; Leonard Boyarsky, world designer

Ten years have elapsed between *Diablo II* and its successor, but Blizzard hasn't been resting on its laurels. Instead it has built, tweaked, torn down and rebuilt the third game in the dungeon crawling series. We talk to two of its creative leads about crafting a fantasy world that's been made to last.

From an artistic perspective, what's the challenge in having a forced perspective?
Julian Love You know, it's liberating in some ways. I think that's what you have to do, you have to take things that seem a like restriction from some other points of view and turn that into a strength. And there's lots of possibilities in having the camera locked down. The best one is that you always know what it can see. And this is a restriction that movies have been playing with for years, so if you start thinking a little bit more like cinematographer, and start thinking about the tricks that they use, you can bring [those] into your game. There's a lot of things we do where we just paint what the camera can see, whereas in a regular 3D game where the camera's all over the place you don't have that ability, and that allows us to really focus in terms of the art and presentation in order to get it just right.


Julian Love, lead technical artist


Leonard Boyarsky, world designer

You've just come to the end of an incredibly long development process – what were the most challenging parts of the making the game, and where did most of the time go?
Leonard Boyarsky Iteration would be the easiest way to answer. You know, iteration on all things is probably the most important thing. It's not like we're just sitting around trying to repaint blood for the 20th time. There's a purpose to it. There's another way of looking at it, though – I heard this the other day and it really kinda exemplifies the way the process works. It's that you make 90 per cent of your game, and then as soon as that's done, you make the other 90 per cent. I think you have to make a lot of your game in order to find out all the things that may not be exactly right, or might even be wrong, about it. Especially with a *Diablo* game, you need enough systems online [and] enough of the world fleshed out in order to start making really coherent decisions about the way all that stuff is going to interconnect and work. And that leads to making a whole lot more stuff, or remaking a whole lot.

Do you work without conventional deadlines, then? Is there some other form of structure that informs your creative process?
JL It's not that we don't have the pressure of deadlines – we do. I think the important thing is to have deadlines within the structure. I think the difference is that we don't make arbitrary deadlines, we don't say 'We need to ship by this date.' It's not right to left scheduled. The important part is to put the fun first, so we have smaller deadlines that are put there to try to get us to those points. It's just that we're not constrained by an arbitrary deadline.



Do you think there's been a shift in focus away from loot as primary measure of progress and reward, and towards runes and skills?
JL Well, I think there's more focus on using loot – the way you interact with your stats is through loot – whereas in *Diablo II* you just plugged in numbers. I think collecting loot is way more fun than punching in numbers, right? So this puts more emphasis on the idea of loot from the start. There's more loot available – there's just more of everything.

Why the late switch from runes as loot drops to unlockable character attributes? Was it an attempt to keep them away from the auction house?
LB It had nothing to do with the auction house; it had everything to do with how cluttered that system was. The core idea behind the runes system was to allow you to explore all the different options that you have for your character, and it felt right initially to make it something that dropped in the world. But once we had the game up and running it – this sort of speaks to that 90 per cent and 90 per cent idea – it was easier to see what the longterm costs and impacts of that decision were. One of the biggest ones that turned up was all the time players were spending managing different items and runes in their inventory, and the bottom line is that wasn't fun; we'd rather be killing monsters than doing that. So we thought we needed a more direct system to manage those decisions, and that's really where the decision was driven from.

***Diablo III* has moved away from rigid character build planning towards more flexible systems. Were there any internal reservations about doing so?**
LB We really looked at *Diablo II*, and we really wanted to improve upon it. And what we found was that, well, there were a few ways of playing with the distribution of points for your stats. There was finding the exact right way you needed to distribute them to make an optimum build, or there was, well, making a bad build. And that's not fun, and we've really tried to lessen the non-fun aspects of the game. As Julian was saying, *Diablo III* is much more amenable to trying out different builds and exploring your character, as opposed to going, 'Oh God, I spent that point in the wrong spot.' This gives you a way to experiment without pain. ■

Ghost Recon: Future Soldier

Ghost Recon: Future Soldier's journey through development parallels that of fellow Tom Clancy and Ubisoft stablemate *Splinter Cell: Conviction*. Both games debuted to the press and public in a form vastly different to their final product, and both ultimately put fresh spins on the established mechanics of their respective long-running series. There's even some shared gameplay DNA, with *Future Soldier's* Ghosts employing Sam Fisher's room-clearing takedowns, branded as Sync Shots here. It's a team effort rather than a one-man special attack, though, upping the pace and offering gung-ho players some fist-bumping moments of glorified death. What's more, a stronger emphasis on stealth throughout the game (crouching triggers your active camouflage, helping you stay unnoticed) further reinforces those *Splinter Cell* comparisons, with your Ghost now able to sneak up on foes and deliver melee takedowns.

Elsewhere, Ubisoft's other tweaks to the formula streamline the singleplayer game. Squad commands are now limited to initiating attacks, heal commands and 'tagging' specific threats. Generally, your three AI squadmates mirror how you play – they crouch and go prone as a unit, open fire when spotted, and regularly save your fragile life as they flank and face down the opposition. This is a diluted *Ghost Recon*, then, at once punchier and less strategic than *Advanced Warfighter*.

Missions are punctuated by gruff-voiced banter and erratic shaky-cam cutscenes as you and your band of brawny brothers headhunt clichéd, Aviator-wearing threats to world peace. The game's creators have taken a broader, less-cerebral approach to its world and politics, but popcorn blockbuster values are an appropriate match for the more accessible gameplay.

Inching a series built largely on military fidelity closer to the action genre is an approach that's been tried without success many times before. Most recently, Sony cover shooter *SOCOM: Special Forces* and Codemasters' awkward halfway house *Operation Flashpoint: Red River* fell short of expectations as they reached for inspiration beyond the grasp of their respective legacies. *Future Soldier*, however, prevails where those two titles stumbled. The action is more kinetic, charged and louder, but it maintains the illusion of realism, and entertains with its rollercoaster of set-pieces and measured, varied objectives.

Future Soldier is anchored by solid world-building, evoking a strong sense of threat and place as you creep and kill your way through the lush, if linear, locales. Enemies, ammo dumps and architecture have been arranged with a set designer's eye for detail across maps that take in the sun-ravaged streets of Nigeria and Pakistan and the snowy slopes of Russia, all brimming with colour and flair. They're the kind of levels you'll want to revisit at higher difficulties and with different

Publisher Ubisoft
Developer In-house
Format 360 (version tested), PC, PS3
Release Out now (UK, US, EU on 360, PS3), July (JP)

The action is more kinetic, but it maintains the illusion of realism, and entertains with its rollercoaster of set-pieces



gear loadouts, too. Each one is treated as a walled garden for you to conquer alone or with friends, and the ability to heavily customise your firearms becomes a reason to double-dip the campaign, encouraging you to test out ways of dealing death with even greater efficiency. The weakest links in the campaign chain come in the third act, however, when the developer caves in to the action-shooter genre's need for escalation, and wrong-foots the game's balance with a hyperactive pace.

The front end reminds you that online is a big part of *Future Soldier*'s strength and focus (its lobby-style layout places multiplayer at the top of the list in case you didn't get the hint), and the game's multiplayer elevates the singleplayer's mechanics brilliantly. For instance, take your Ghost's cross-com HUD, which identifies concealed friends and foes. It gives you superiority in the campaign, but against equally matched opponents provides room for greater tactical play, adding tension as you scan the horizon for new threats. Gadgets become crucial to victory as well (the sight of a silent UAV drone overhead scanning the environment is nerve-racking) and this encourages you to rank up and unlock the best of the game's extensive inventory to outpace and outgun the competition.

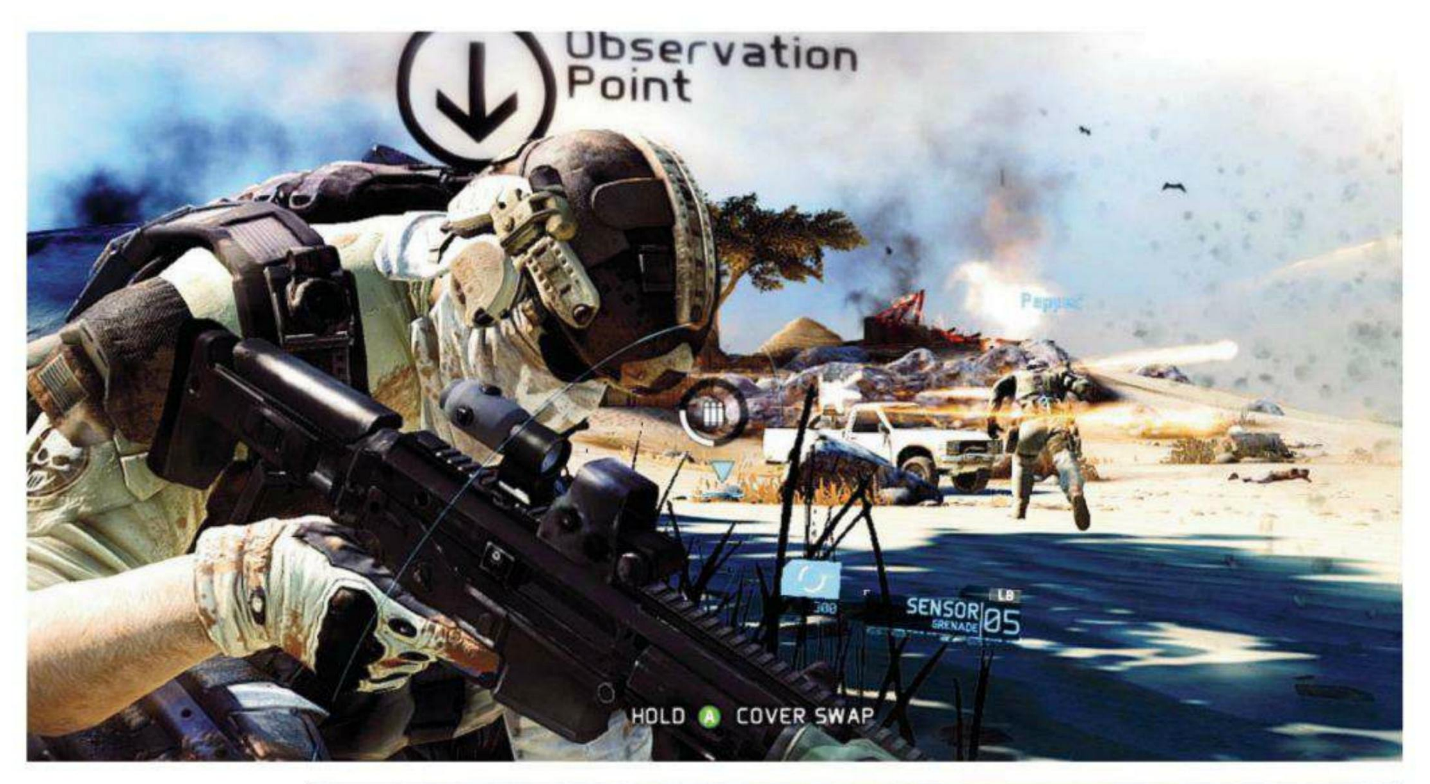
Maps are perfectly sized to accommodate both full 16-player Conflict matches (in which objectives are delivered on the fly) and the stealthier Saboteur gametype (all about planting and detonating a big bomb behind enemy lines). Then there are the Siege matches, which have respawns disabled and best capture the hardcore spirit of earlier entries in the series, while Decoy matches serve up another lively dose of tactical espionage as you deactivate enemy hardware.

Levelling up specific classes, (be it Scout, Rifleman or Engineer), keeps you invested even as you're cut down by bullets time and time again. The vulnerability of your soldier makes stealth imperative, and the kill-cam (AKA Casualty Assessment) provides a useful lesson on where you're going wrong and where your opposition is getting it right.

Further longevity is offered by challenges in both single- and multiplayer, requiring you to fulfil some frighteningly strict criteria in missions and matches, such as trying to kill off ten enemies in a row without reloading. Then there's Guerrilla (read: Horde) mode, adding to an already robust package.

Future Soldier exemplifies a developer honouring the 'fun first' ethos of its publisher's canon, even as it stays true to the seriousness of its espionage licence. Yes, it's lost some tactical edge, but a disciplined commitment to entertainment focuses the experience. In the over-masculine world of the thirdperson shooter, this is a game that stands out for being delicately beautiful even as it delivers brutal thrills.

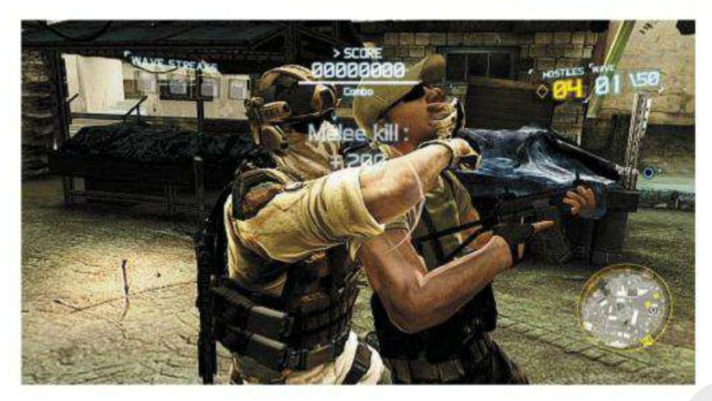
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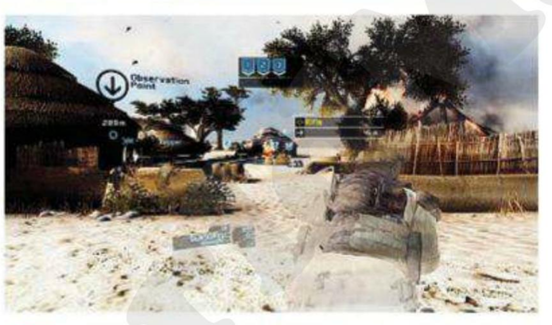




ABOVE The developer's research – informed and enhanced throughout production by special ops advisors – shines through in the animations and actions of the Ghosts as they navigate hostile environments. RIGHT With your augmented HUD, you often feel exquisitely overpowered in the campaign, able to pick your marks with ease and work the room like Batman rather than a mere macho super-grunt

BELOW The Guerilla gametype is Ubisoft's take on *Gears*' Horde mode, seeing you fend off platoons of AI enemies and holding HQs. You'll fight up to 50 waves per map, and have take a new outpost every 10 waves, which prevents matches from getting too staid





ABOVE Active camouflage isn't the only optical illusion at work in *Future Soldier* – the campaign levels are strictly linear, veiled by intricate details and cunning use of background to give the game the air of a vast canvas

Post Script

Interview: Jean-Marc Geffroy, creative director; Adrian Lacey, development director

Future Soldier draws elements together from past *Ghost Recons* and other titles in the Tom Clancy canon, plus it's wedded to *Rainbow Six Vegas*-style animations and attention to detail. We sit down with two of the men behind the vision to talk cross-studio collaboration and keeping science fiction realistic.

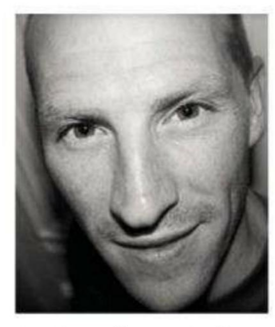
How was the project carved up between studios?
Adrian Lacey Multiplayer, of course, was developed by Red Storm, who worked on *Ghost Recon: Advanced Warfighter* and *GRAW 2*. We worked with [the studio in] Bucharest, Romania, on a couple of missions.
Jean-Marc Geffroy It was truly a co-production. Red Storm was dealing a lot with the guns – modelling, how they shoot [and] sound. It was shared between us.

What makes a *Ghost Recon* game?
AL The foundations of what is recon and Clancy – that real-world, authentic special forces fantasy – is the key to a *Ghost Recon* title. Tech, military, science: that is Clancy, they're our foundations. A lot of the tech in the games are based on real-life prototypes, based on reality; we spend a lot of time researching what's happening on the battlefield today and what's going to be happening tomorrow. If you look at *GRAW*, we had UAV drones. Five years later, you can control that via iPhone. Now your cross-com monocle is integrated into a ski mask. It's all based on prototypes we look at and then give to players as a functional tool for gameplay.
JMG There's a very fun story about active camo. It was a decision in the team, and it's always [controversial] with players, because they think it isn't real. The first time the US army worked on camo was the mid-80s, just after Predator. One of the generals [saw Predator] and said 'We need to have this!' – it was mid-1985.

Why did you change the command system?
AL We took out the order system because we want you to be a special forces operative – it's not 'Go over there, hide there.' We took it out because of what we learned from special forces: they know how to [use] cover.

Does that change make the experience more casual?
JMG The answer is it's not being more casual, it's more accessible. It doesn't mean lack of challenge, only that you are able to do what you want without struggling.

The tone feels more action-oriented than before...
JMG I think there's actually less action than *GRAW*... Actually, when it goes action, it's more action. When I start a fight in *Future Soldier,* it's more action than *GRAW*, for sure – but if you want to be recon, you can. You can take it slow if you want. The change between


Jean-Marc Geffroy, creative director


Adrian Lacey, development director



GRAW and *Future Soldier* is the dynamic animation. It was more clunky, not dynamic [in *GRAW*], so we chose to put a lot of thought into animations.

The cutscenes feel a little incongruous with the rest of the tone – who developed them?
AL That was done [in-house], the idea was to show the men behind the masks. It's one thing you don't see in a lot of games. We could have done the whole Michael Bay thing and had buildings falling over, but we wanted to show how these guys live and breathe outside of their operations. If you put big fights and explosions in cutscenes, everyone nails you because the game's not like that. Anything story-driven is in cinematics, all the action is in the game – that's what we wanted to stay true to.
JMG The idea was little action in the cutscenes. It's how they live between missions.

The Sync Shot in the game mirrors the mechanic in *Splinter Cell: Conviction*...
JMG There was nobody from *Conviction* working on this, but I know Max Beland, he's a friend, so yes we were discussing it. But the reason for common elements is more because it's a Tom Clancy game, a thinking shooter... Yes, we end up with mechanics that are close.
AL With *Ghost*, a lot of it is about preparation, and when you're playing a thirdperson shooter one advantage is you're able to have eyes on the battlefield, peek around corners. We wanted you to be able to feel like a much stronger force than you actually are, because you're only four guys. That's very true to what is recon and what is special forces. That affected our approach to enemy and level design. The Sync Shot allows you take out four guys quickly, [to] surprise them.

Another parallel to *Conviction* is that both games debuted in totally different forms – why did they vary so much from their original directions?
AL It's that age-old thing: welcome to development. I didn't work on *Conviction*, so can't comment. But on *Future Soldier*, one of the things that happens in the early conception phase is you get really creative, you try to push the limits of what you're doing. What we found in the beginning with *Future Soldier* was we took all that technology and pushed it to the maximum level we could, and we started losing what the foundations of *Ghost Recon*, and even Clancy to a certain extent, are. We became a bit too sci-fi, too far in the future, we wanted a plausible future. We wanted to recentralise what *Ghost Recon* was.
JMG When you're going in the wrong direction, sometimes you don't realise it. ■



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Starhawk

The multiplayer-only *Warhawk* of 2007 broke away from its title-sharing 1995 singleplayer predecessor by shifting towards large-scale shooter action and exploiting PS3's networking capabilities. Five years later, *Starhawk* – developed by LightBox, a studio home to members of *Warhawk* maker Incognito Entertainment – has returned to the singleplayer game.

It sees you take on the role of Emmett Graves, a typically gruff, grizzled loner who traverses the wastelands of a space age dominated by the battle for Rift energy. Storytelling spice is added by drawing from Joss Whedon's cult-favourite TV series Firefly, with the game's homages including the Scrappers, a direct nod to the show's Reavers. Meanwhile, a glorious score from award-winning composer Christopher Lennertz evokes the space-Western genre with rousing orchestral arrangements. It is, however, light on content and heavy on style. Fundamentally a linear series of objectives interspersed with cutscenes, the mode better serves as a tutorial for the game's more essential online modes, but also a showcase for the team's dazzling technology – equally capable of lengthy draw distances and the detailed minutiae of crafts and characters.

Starhawk's visual style is thick with sci-fi references, including Tatooine and the industrial aesthetic of Ronald D Moore's Battlestar Galactica, but, as with *Warhawk*, it lacks the spark of individuality to elevate it from a solid singleplayer action game to something greater. It borrows a number of ideas from series with better-defined personalities, and hence reminds you of their finer implementation. The Razorback, for example, is a less manoeuvrable facsimile of the Warthog; the Vulture jetpack is a riff on *Halo: Reach*'s more tightly designed Armor Ability; and the character models, while heavily customisable, lack the iconic impact of *Gears'* Marcus or, in the Scrappers' case, the Locust.

Where *Starhawk* finds its own voice is in an RTS-like building mechanic that plays a major role across multiplayer and singleplayer. Holding triangle pops up a structure wheel, and making a selection plunges you into a long-distance view from which you can choose a location to construct buildings. They then drop from the sky, provided you (and your team in multiplayer) have collected enough Rift energy to pay for them. The result is that you can strategically craft base camps that generate vehicles and help accumulate more energy for bigger, better structures and vehicles, as well as extra munitions. The sight of a friendly Starhawk launchpad falling from the heavens offers a glorious sense of power, and, since players respawn in the same way, a sense of comradeship, too. Players and structures dropping into the large maps are signified by a trail of colour in the sky that's visible from across the battlefield, a cunning way to track hostile encampments and prey on new arrivals to the maps.

Publisher SCE
Developer LightBox Interactive
Format PS3
Release Out now

The growling, gripping core of Warhawk's well-balanced online multiplayer still lurks beneath Starhawk's more stylish veneer



SOARING HIGH
When you first hop into a Hawk it's in the form of a two-legged mecha. A tap of circle will see it transform into plane mode and scream into the air. But while you can blast off in near-seamless style, it's often a good idea to stay on two legs. This means you're able to stamp out foot soldiers or mow them down with its dual, infinite ammo machineguns.

Including a singleplayer shooter has at least helped draw LightBox's attention to the weak spots that hindered *Warhawk*. As a result, there's now a greater sense of physicality to movement, with more nuanced animations and weightier physics, and ground vehicles feel more believably connected to the terrain. But unfortunately, the game doesn't rectify all of *Warhawk*'s issues. Grenades are still too unpredictable to use with any level of precision – you'll regularly misjudge the trajectory and find yourself caught in the blast. And while the levels lend an astounding sense of scale in singleplayer, in multiplayer their size can still feel too limiting, especially in 32-player battles, which get too cramped for comfort.

Despite such niggles, the growling, gripping core of *Warhawk*'s well-balanced online multiplayer still lurks beneath *Starhawk*'s more stylish veneer. Modes in which you occupy zones and capture the flag matches are highlights, requiring you to organise your base effectively as a team if you're to fend off enemies' carpet-bombing runs and hilltop sniping. At its best, *Starhawk* is a game of fighting fire with fire until a perfect storm of an attack opens up the enemy base and leaves it vulnerable. It may take you a few hours of play to find the rhythm (and the right crowd of players to gel with), but once you know the lie of the land, how best to manage your resources and assemble a team with a strategic sensibility, *Starhawk*'s multiplayer is beautifully freeform within the confines of its tightly plotted, symmetrical maps. Deathmatches play out much better for the lone gunner this time as well, with the ability to spawn your own arsenal providing a solution to the lonely trawl for scarce Hawks that plagued many a *Warhawk* session. And the maps are more aesthetically extravagant than *Warhawk*'s, framed by stunning backdrops that demand you stop and stargaze between bouts of battle.

Among all the flash, *Starhawk*'s building mechanic is its most important innovation, and one that we may find inspiring more shooters to take on its ideas. It's intuitive and responsive, bridging the gap between RTS and action game, a concept that we last encountered this well integrated back in 2000 while playing Massive Entertainment's *Ground Control*. It lends *Starhawk* admirable ambition, adding more distractions, destruction, and dynamism to a mould that was at least sturdy to begin with. But though its maps are denser with activity than *Warhawk*'s, they can also prove more confusing and chaotic. More seriously, its magpie picking of influences leaves it with too little personality of its own, and comparisons with its sources are often unflattering. Still, it boasts scale, action and variety that make it a welcome addition to PS3's multiplayer roster.

7







ABOVE *Starhawk*'s universe is one of bright colour (mostly the bright cyan that's serving to represent futurism these days), and the space-Western genre stylings that have become so popular over the past few years

TOP Dropping into matches brings to mind TimeGate Studios' *Section 8. Starhawk*'s derivative sci-fi designs mean that it also suffers from that game's lack of identity. ABOVE Where *Warhawk* tried to keep its world grounded, drawing as much on 20th century military iconography as anything distant-future, *Starhawk* is unrestrained in following science fiction stylings. RIGHT DLC maps are promised to be free, taking some of the bite out of the initial retail price tag. Your network pass also grants you a free download of the original PlayStation version of *Warhawk*, whose cringe-worthy live-action cutscenes and eyesore textures are a reminder of how far we've come



Dirt Showdown

Publisher Codemasters
Developer In-house
Format 360 (version tested), PC, PS3
Release Out now

The story of racing games could perhaps be told by a mode, and that mode is Eliminator. Lap after lap of competition scraps the weak – or unfortunate – until just a handful are left. Skill, experience, strategy and brawn are what it takes to reach the podium, where Codemasters now sits after years in the race.

Surrounded by the wreckage of franchises and teams, *Dirt Showdown* is just the kind of redneck mudplugger you'd expect a tough developer to ride across the finish line. A battle racer, its pared-down chassis is now little more than a waistcoat around its engine, the same methanol-spewing beast that powered *Dirt 3*, *F1* and *Grid*. It's a game teased by years of tech demos where the rules don't exist; cars shot into walls, and bounced end over end into oblivion.

First impressions are of a kind of B-sides and rarities collection bashed together from *Dirt*'s previous tours. Scattered throughout the five championship tiers are the same *Baja: Edge Of Control* endurance races and gymkhana events that have come to symbolise the series' Americanisation. There are familiar venues, too, such as the Battersea sandbox playground. But they're just fractions of a game that's fundamentally changed, making *MotorStorm*-style nitro boosts key.

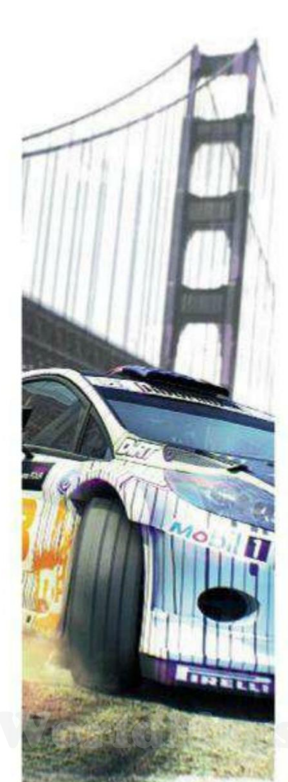
It says a lot that there's no marquee feature here: all of the events have star quality. Knock Out and Rampage, though, are the most symbolic – both destruction derbies, the first adds a Royal Rumble-style objective of wrestling other cars off a platform that you then have to jump back onto via massive ramps. There's also Hard Target, a survival event in which everyone's trying to smash a single 'life' out of you, chasing you around the arena's many obstacles.

All of these are perfect for showing off Codemasters' knack for perceptual AI. We've seen it before in *Grid*, a game defined by the visible aggression of its opponents. Though its focus is really multiplayer, *Showdown* does a terrific job of convincing you, online or off, that if you stand still for a second you're going to get rammed by just about everyone. And when you do, the impact will give you virtual whiplash.

Other events in the offline tour are more traditional, though the gloves are still off. The best might be 8-Ball, a race to the finish where the fun spikes deliriously whenever the track loops over a crossroads, given the threat of one or more drivers T-boning you off course in a shower of dirt and metal. And it, like Rampage and Knock Out, only gets better in multiplayer.

Of course, being mostly a battle racing game, *Showdown* is inherently pretty unfair. Even in the straightforward Race Off mode, it's not uncommon for a nudge to the hind quarters to spin you into a tyre wall or a sudden pileup of traffic. The game's trick, like *MotorStorm*'s, is to amp up the carnage to such an ambient level that no one is safe. Anything involving laps becomes such a minefield of smoking debris, entire car bodies included, that not every crash is avoidable.

The best might be 8-Ball, a race to the finish where the fun spikes whenever the track loops over a crossroads



This leaves modes such as Trick Rush and Hoonigan to round out the main selection, brilliant as they are at making an accessible handling model – which becomes a lot more nuanced at Advanced level – feel like some kind of art form. The object of these Ken Block-originated playgrounds isn't to simply guide the car through a doughnut under a lorry, after all, but to chain and improvise to the point of near disaster.

Haters of *Dirt 2's* ritualistic front-end will cheer not just this game's no-nonsense approach, but also the degree to which its ancestor's festival atmosphere has been transplanted into these races and events, sending fireworks everywhere; even the snow and rain seem to fizz across the track. The party play lobby is designed to get everyone into modes such as Transporter (a tweaked version of the *Dirt 3* Capture The Flag mode with no capture points) with the bare minimum of fuss. For all its razzmatazz, it's the most minimal Codemasters UI since the *Colin McRae* titles of the pre-*Dirt* era.

Much is technological here, and a lot comes down to experience. Ego has proved itself an engine built to run harder and longer on both PC and console, while *Dirt* especially has seen some spectacular trial and error in its design. While it may seem cannibalistic, 'stealing' elements from racers whose stars are fading, *Showdown* is very much a show of its maker's own maturity.

Flashbacks, for instance, the rewind feature invented by *Grid*, only appear in events where the most minor mistakes are calamitous. Elsewhere, they mutate into 'Crashbacks', mere replays that inherit *Dirt 3*'s YouTube support. Showdown Challenges issued between players build upon the asynchronous multiplayer concepts of *Dirt* and *F1*. Enter the online fray with just a basic profile and, if you fight hard, you'll get 'underdog' bonuses that mean upgrades come quickly.

There are times when the basic upgrade system feels superficial, and begs for the kind of deeper personalisation that would spice up the simpler 'party' modes. But *Showdown* is not just a party game, nor is it the limp refurb you might expect this late in a console life cycle. It feels like something as crucial to Codemasters Racing as any of its predecessors – less a spin-off than a deliberate change of tack.

In fact, what it hints at is the parting of a franchise that's long seemed schizophrenic into two distinct threads – a much more intelligible split than attempted by *Need For Speed*. Knowing that Codemasters' next-gen tech is already advanced, it clears the way for just the kind of 'pure' rally game that some fans have been hankering for. Still, *Dirt* has done more than just reach the finish line where so many others have failed; with *Showdown*, it's now into the victory lap.

8





ABOVE It is *Dirt Showdown*'s small gladiatorial arenas that we should thank for Codemasters' best balance of performance and visual effects to date. It's fair to describe them as explosive in every department





ABOVE Edge of control meets edge of reality when it comes to damage and physics models, but the laws of gravity are always obeyed. Not even the harshest collision produces Bruckheimer levels of chaos, although the impacts feel just as severe.
LEFT For all their sophistication, there's always been something a bit coarse about the *Dirt* games. The commentary in this one is so bad that America should sue for defamation of character

Gravity Rush

Publisher SCE
Developer In-house (Japan Studio)
Format Vita
Release Out now (JP), June 12 (US), 13 (EU)

Gravity Rush might be known as *Gravity Daze* in its homeland, but the truth is that both titles work just as well. The daze? That's found in the woozy, discombobulating feeling of tapping the right shoulder button in mid-air, causing gravity to vanish and 360 degrees of orientational possibility to open up around Kat, your character. The rush? You'll feel that when you settle upon a bearing, press the right shoulder button for the second time and hurtle off in a new direction – and you might just feel a tiny bit of both when you realise you're not flying in the slightest, you're just falling *up*.

One of the pleasures of *Gravity Rush*'s central gimmick is that it really, truly functions as it claims to. Watching trailers, or playing the disorientating (in a good way) tutorial, it's easy to think that you've been equipped with a hybrid superpower – two parts Superman-style flight to one part Spider-Man wall-crawling stickiness. This is wrong, however: Kat's power genuinely is the ability to alter the direction in which gravity pulls upon her.

Aim your cursor at the side of a building (and thanks to the granular precision offered by the same gyroscope that enhanced *Uncharted: Golden Abyss*'s aiming, it's not at all tricky to pick whichever brick takes your fancy), press the R button, and that wall will become Kat's new floor. You can even run and jump across to neighbouring walls, platform-game style, with no further gravity-shifting trickery required.

Leap into the air, hover there for a moment, and then fall up and onto a slab of street wrenched from the ground by a mystical storm: these are kind of tricks that characters such as Bayonetta and Dante perform in QTEs and cutscenes, if they can pull them off at all. In *Gravity Rush*, it happens in the opening mission.

Gravity Rush's weakness – and it's a good one to have – is that none of the other mechanics can truly live up that central idea. The visual style is striking, offering a kind of steampunk, Ghibli-meets-Dickens, sepia-toned quasi-Victorian city in which to play, fight and explore, but the tasks and challenges the game will set you are for the most part fairly simplistic. They'll send you across, beneath and above the city, while throwing a variety of enemies sporting fairly obvious glowing weak points at you along the way. There is some very rudimentary stealth, and some overly scripted chase sequences, but for the most part fighting and falling are all Kat needs to be concerned with.

Admittedly, a glowing weak point seems a bit less of a cliché when you attack it by falling up and over a spindly-legged monstrosity's head before hovering in mid-air, reorientating yourself and then sending yourself hurtling back towards it with a wicked flying kick attack. *Gravity Rush*'s combat, in other words, works best when it tosses Kat into scenarios built around its central idea, rather than the times it calls upon her other, less original powers. The latter includes the ability to magically pick up and fling pieces of level furniture at the hardy outer shells of certain enemies, which has its moments, but is essentially a repurposing of *Half-Life 2*'s gravity gun.

The visual style is striking, offering a kind of steampunk, Ghibli-meets-Dickens, sepia-toned quasi-Victorian city



Indeed, *Gravity Rush* is at its best when you put the main objectives aside and simply explore with the aid of Kat's novel power. As with most open-world superhero titles, *Gravity Rush*'s chief draw is it's super-powered parkour. The surreal thrill of standing on billboards and giant television screens, Kat's body jutting out a 90-degree angle in respect to the ground below, more than makes up for more familiar moments presented elsewhere (her scarf is immune to her shifting powers, allowing you to always figure out your orientation at a glance).

If it recalls the giddy thrill of *Crackdown*'s climbing at times, it may well be supposed to: that game's agility orbs are recreated here in the form of purple gems that can be used to power up all of Kat's abilities – allowing her to spend more time shifting gravity before crashing back to earth, say, or turning her ground-based melee combos into something more befitting a superhero. Unlike the orbs, however, the nature of Kat's abilities means that gems can be tucked beneath surfaces as well as be left hovering above them – leading to breadcrumb trails of purple that pull you along the underside of the city.

And the city really is worth exploring, since every angle has been designed with a *Fez*-like awareness that every surface counts. This means that the vast, lonely underbelly of exposed piping and foundations below is as rewarding to explore as the busy network of city streets and rooftops above.

The story offers an engaging blend of eccentric nonsense, and occasionally contrives set-pieces that are worthy of Kat's powers, asking her to pick her way across impossible landscapes that are either in the process of reforming themselves or being actively torn apart. But it has weaker moments, too. The game will occasionally strip the player of Kat's primary skills, forcing them to rely on fists and feet in battle sequences, and also has a habit of transplanting her out of that beautifully realised cityscape.

Gravity Rush might not always live up to the promise of its tutorial, but it's exactly the kind of original game that a fresh-faced system such as Vita needs, taking subtle, thoughtful advantage of its control inputs while showcasing its power. But it's also the kind of game the medium needs – after years of mutated, supercharged, power-armoured wannabes with an envious eye on comic books, gaming has finally produced a unique superhero.

8





ABOVE While the glowing weak points on enemies are always fairly obvious, the enemies themselves are anything but. Their designs recall the inky blobbiness of *Ico*'s foes, and they move with same sinister elegance

TOP At times, *Gravity Rush* actually made us feel a bit queasy. Whether that's an endorsement is for you to decide, but it's a testament to the powerful feeling created by shifting orientation and gravity. ABOVE A dash move activated by placing your thumbs on the bottom corners of the screen lets you scale flat surfaces quickly. Steering – activated by tilting the unit – feels a bit oversensitive at first, however. RIGHT Tap circle and Kat will pick up nearby objects. Most of the time, these are used as projectiles, but on occasion you'll need to deliver objects (and even the occasional person) around the city



Resistance: Burning Skies

Publisher SCE
Developer Nihilistic
Format Vita
Release Out now

Sony's promise for PSP has always been that players can pocket the home gaming experience and take it wherever they please. But it's really only since Vita arrived with its dual analogue sticks that an FPS, such as *Resistance: Burning Skies*, has had the chance to establish whether that ideal really holds true. Sadly, 'compromise' is the word that most readily springs to mind here. *Burning Skies* follows the antics of Tom Riley, an American firefighter and nonentity protagonist co-opted into repelling an alien assault that's described in more comprehensive detail in other *Resistance* titles. It's something of a rebuttal to Vita's software vision – dual analogue sticks or not, this is a cursory offcut of the home gaming franchise we all know and, er, know.

The series' modest ambitions are here scaled back to a glum inventory of FPS conventions, its spectacle dampened by hardware limitations and dormant art direction, and its platform-specific novelties largely revealed as fussy irritations, presumably born of a need to promote the struggling Vita's features. Nor is this a highly finessed effort: invisible walls cheaply chaperone the player through the levels; textures occasionally fail to load altogether; enemies pop into existence when spawned, and pop out again upon death; AI allies and enemies alike face the wrong way or get stuck in run cycles against fragments of the scenery. There's even that hallmark of desultory design: unskippable cutscenes after checkpoints. During the longer animated scenes, Vita's power-saving feature turns off the screen unless you fiddle with the buttons.

But what really undermines *Burning Skies'* claim to be the premier portable FPS is its lack of adventure. Its rhythm feels trite: a chain of stop-and-pop arenas, one much the same as the last, wherein you fight a few escalating waves of enemies and occasionally tangle with bosses, glowing weak spots and all. One 'climactic' wave-survival section goes on so long that even the dramatic music gives up halfway through. It sometimes breaks this formula to bushwhack you with instant death, either at the hands of an unexpected miniboss or a quick-reaction task requiring a fortuitous wrangling of the game's cumbersome controls.

A painful timed sequence sees you attempt to escape from a laboratory before it fills with flames, running and ducking beneath a series of closing blast doors – two actions that prove problematic. You double-tap the Vita's backplate to dash, but this command is fatally unreliable and an awkward way to initiate what should be instinctive reaction. Ducking is almost as finicky, despite being on a button. It seems particularly reluctant to heed the order if you are running, and sometimes disregards it if you're pressed against something. The result is farce: you lurch and halt like a drunk as you quadruple-tap the backplate, hoping it will eventually recognise your urgency. Then you bound into the blast door, fail the critical duck manoeuvre and reposition yourself, finally waddling forwards to be crushed by the descending gate. This is presumably not the heroic getaway that the developers envisaged.

AI allies and enemies alike will face the wrong way or get stuck in run cycles against fragments of the scenery

Other uses of Vita-specific functionality are better. Although using the touchscreen isn't convenient during a firefight, it does offer something in return. Drag a grenade from its icon and you can lob it at a specific enemy onscreen – a neat metaphor for the throwing action, even if clipping errors sometimes leave the explosive embedded in the scenery right next to you. Each weapon also comes with an alternative mode of fire that's activated by touchscreen gimmickry. The Bullseye rifle enables you to select an individual enemy with a tap, so that your bullets home in, while a sweeping finger can also highlight multiple targets for your guided rockets. These are neat ways of getting round the Vita's scarcity of buttons, and the discomfort of stretching a thumb into the middle of the screen is an acceptable trade-off, given the powers it affords.

***Burning Skies'* arsenal**, largely inherited from other *Resistance* games, is its best asset. Although you carry eight weapons, later firefights regularly require more ammunition than any one gun holds, forcing you to chop and change during every battle. Each weapon's alternative firing mode extends range or adds splash damage to weapons that normally have the opposite specialities. It makes for an empowering toolset, and is the major dynamic factor in any of the game's battles.

Also inherited is the series' period setting and propaganda-reel framing device. While the latter makes for an interesting spin on your heroic actions, the narrative is risibly thin and peopled by characters of tremendous banality (and, in most cases, given creepy, slit-mouthed rubber faces, like melted sex dolls). The gameworld is similarly too bland and too crudely drawn to establish any real sense of time or place. Only the later levels, set in the bowels of some alien contraption, have any real character – and even they are a rehash of the metal-and-flesh grotesqueries seen in *Quake, Prey, Gears Of War* and countless other games. This serves as a reminder of how reliant the genre has become on a very limited palette of expression.

Even if the graphical resources of the PS3 were available to it, *Burning Skies'* vision would be limited. On Vita, this sub-par instalment of an also-ran shooter finds itself cramped further by hardware limitations. It may be that people who already own Vitas are happy to accept compromised versions of home console games, but slow sales of the devices suggest that many aren't. Vita needs a unique reason for its existence, but, on the evidence of *Burning Skies*, the promise of blockbuster titles on the go is little but hot air.

4



SCRATCH THE SURFACE
Some of the applications of Vita's touchscreen seem to exist solely to remind you that the device has one. Witness *Burning Skies*' weapons upgrade system: each weapon has eight possible upgrades, of which you can choose two. Although all the options are listed quite clearly, to select one you need to tap a cube in the centre of the screen, then rotate it until you find the icon that represents the upgrade you want, and then tap it again. In case this makes it sound like a minigame or puzzle, it isn't – it's just an oddly laborious selection method.





ABOVE There's little intelligence on display among your AI opponents and they tend to keep their distance, so you can pop heads at your leisure. One or two may try to rush you, in which case your fire axe comes in handy



TOP Fans of the series looking for answers regarding the reasons behind its alien invasion will find few here. The events of the game feel very much like a footnote.
ABOVE This hulking brute with a rocket launcher for an arm is a regular miniboss. He's easy enough to evade, but his homing rockets can prove a problem if you are trying to deal with lots of other enemies at the same time as him.
RIGHT None of the environments really wow, but this sequence on a collapsing bridge does manage to suggest scale, even if it succumbs to the game's monotonous palette



My Little Hero

Publisher NCsoft
Developer In-house
Format iOS
Release Out now

A kidnapped stuffed toy, a plucky protagonist with a cardboard helmet, and a fantasy world accessed through the gaping doors of a bedroom closet: for the first 30 seconds or so, *My Little Hero* has the makings of a charm offensive. For the next 20 minutes, in fact, you'll probably be beguiled and entertained, enjoying the smart virtual controls, the knitwear enemies, and combat that comes with one-two-three rhythms and the hefty knockbacks of the early *Zelda*s. After that, however, things start to stagnate. Beyond these early pleasures, there's little here except monotony.

My Little Hero breaks the central rule of good action-adventures by not really taking you anywhere. Sure, the backdrops change, the occasional new enemy is introduced, and you'll even collect a variety of gadgets, from a flashlight that's good for exploding gnats to a slingshot that's handy with certain switches. The problem is that none of it makes much difference to what you're doing. A shift in art assets may send you wandering from forest to desert to swamp, but you're still playing the same meandering levels filled with backtracking and combat bottlenecks, and stuck in a campaign that's tediously reliant on pressure plates and shifting walkways.

Cheap bosses and stingy save points ensure it's a drag as well as a bore, while a handful of crash bugs do little to improve proceedings. *My Little Hero*'s greatest charm is its air of sweet innocence, but its adventure is primitive rather than childlike. **4**



Spellsword

Publisher Everplay
Developer In-house
Format iOS
Release Out now

The traditional RPG isn't quite the force it once was: developers continue to marry the obvious pull of the genre's underlying systems to more immediately gratifying play mechanics, thus offering the satisfaction of progression without the grind. *Spellsword*, Everplay's alluring mix of twitch action and weapon levelling, owes as much to *Super Crate Box* as *Final Fantasy* and its ilk, and that it's slightly looser than Vlambeer's game matters little when its irresistible momentum so easily sweeps you up.

So you'll be doing missions, rather than quests: fast-paced, occasionally timed arcade challenges in which you're tasked with defeating a given number of enemies, surviving waves, or picking up spell cards. The latter temporarily imbue your sword with elemental powers, though the blast they emit on being collected will often clear the screen.

If the enemies are disappointingly generic, there's a joy to dispatching them: slimes and bats explode messily as blasts of wind launch them into walls, and it's possible to enjoy a brief game of swingball with the laser-shooting eyes that dangle elastically from the ceiling. The touch controls are responsive, though a swipe-based alternate setup struggles to cope with the stern demands of the later stages. Rupees earned from completed missions can be spent on making spells more deadly, while every stat-boosting helmet and ring unlocked offers one more reason to keep playing one of the most fiercely engaging iOS titles of recent times. **8**



Velocity

Publisher SCE
Developer FuturLab
Format PS3, PSP, Vita
Release Out now

You can shoot your way through the credits in *Velocity*, shredding producers and technicians alike. It's a tiny touch, perhaps, but – along with wily level design, vicious unlockable challenges, and a dinky bundled version of *Minesweeper* – it's emblematic of the style and energy with which the whole game has been put together.

Not to mention the imagination. FuturLab's latest is a scrolling blaster that never seems content with such a narrow definition. While much of the campaign is spent cutting paths through collapsing space stations and chipping away at looping enemy chains, *Velocity*'s developers can't help throwing in dangerous new ideas every five minutes, most of which leave serious kinks in the design. For starters, you've got the ability to teleport through walls and across gaps, scrambling the racing line and turning the environment itself into your antagonist. After that, the next few missions alone will leave you with bombs, security nodes to demolish in sequence, and an ability to deploy strategic respawn hubs – at which point the game's core influences shift from *Xenon* towards *Metroid*.

Neither was this relentlessly fast, however, with each squeeze of the right trigger allowing you to speed things up even further. Neither encouraged the same blend of efficiency and flair from its players, either. Despite its hectic invention, then, *Velocity* retains a rare kind of focus – the Minis just got a new standard bearer. **9**





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create

Lifting the lid on the art, science, and business of making games

This issue's People, Places, Things begins on p120, where we meet Yoshikazu Tanaka, the owner of mobile-focused social and games network GREE, and Asia's youngest self-made billionaire. *Mass Effect*'s Normandy SR-1 and SR-2 are two of the best hub worlds around, as we discover on p122. Then flip over to p124, where we examine how Cole Phelps' notebook expresses why *LA Noire* is an atypical Rockstar game. For our Studio Profile on p126 we join Camouflaj, whose first game, a dystopian stealth adventure called *République*, has emerged victorious from a nail-bitingly tense Kickstarter campaign. The subject of this month's The Making Of… on p130 is *Fuel*, a game so vast that it's won a Guinness World Record, and we ask Asobo how it went about crafting a landscape by algorithm. To top that, a whole universe is our topic in the The Art Of… on p134 as CCP's lead creatives talk us through the process of giving *Eve Online* its visual identity. Concluding this issue's Create are our regular columnists, with designer Tadhg Kelly (p138) giving up on getting it right, and LucasArts' Clint Hocking (p140) exploring the domain of damage and how design intermingles with player skill. Then Tiger Style's Randy Smith (p142) explores the boundaries of the spatial metaphor in games, pondering if it really constricts us, and finally writer James Leach (p144) chronicles the trials and tribulations of speculative work.



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The business section of **Edge**'s website



Originally iOS-only, *République*'s tumultuous Kickstarter campaign brought to light players' desire for a PC/Mac version. Find out more about Camouflaj's debut on p126



People

YOSHIKAZU TANAKA

How Asia's youngest self-made billionaire found his fortune in gaming

"A relative said to me recently, 'As a child you were always playing games and I worried about you. And looking at you now, maybe it was just as well you played so many games instead of studying!' You really don't know what's going to be useful in your life"

Now in his mid-30s, **Yoshikazu Tanaka** is the youngest self-made billionaire in Asia, and the world's second-youngest after Mark Zuckerberg. In fact, you can be forgiven for likening him with Facebook's founder. Not just because he sports similar couture: black Crocs, white socks, ripped blue jeans, a white T-shirt and a black zip-up hoodie, but because they've also both made their fortunes (Tanaka's worth an estimated $4.3 billion) founding social networks.

But don't get too caught up in thinking that Tanaka's company, GREE, is just like Facebook, and that he's simply another Zuckerberg. "I'd rather not be compared to anyone to be honest," Tanaka says. "But if I can be compared to the man who created Facebook – he's done very well. He did a good job there."

GREE, which Tanaka founded in 2004, is a network of 190 million registered users. It's a fraction of Facebook's 800 million, but it's also a significantly different company, one built for the burgeoning mobile market and around free-to-play games supported by microtransactions. For an idea of how important GREE is to Japanese gaming, it took up a tenth of the entire floorspace of the Toyko Game Show last year, but faces strong competition, especially by DeNA, a web portal company that runs the Mobage mobile gaming platform.

Though GREE is a fundamentally different form of social network to Facebook, it grew out of similarly personal circumstances. In 2003, Tanaka became aware of Friendster, the American social network, and thought there should be a Japanese equivalent. At the time, he was working at Rakuten, Japan's vast Internet services and e-commerce company, having studied law and economics at university. He'd worked in a variety of positions, from icon design to business development, which had given him a grounding in establishing an Internet company, and taught himself to program in order to build GREE in his spare time.

"The structural side [of programming] was extremely interesting, particularly the way it all fits together: the operating system, TCIP," he says, revealing some of the formal rigour that lies beneath his casual appearance. Though softly spoken, he's serious and an edge of steel lies beneath the surface. "I think when you talk about a young company, it tends to look more casual. In terms of our business style, if we're having fun that's great, but you must do what you need to in order to succeed." But though he's known for putting in long hours, he emphasises that time doesn't necessarily translate to success: "It's not the case that as long as you put in the effort then the time you spend ends up as a better product."

Tanaka created GREE to be a social network first, but, having grown up with Nintendo and PlayStation, he soon saw in games the kind of content that could keep its audience engaged. "I played games as a child and was looking for a way to get people into mobile social networking by amplifying the entertainment aspect, and both lead me to games," he says. His childhood experiences also gave him the vision for GREE's first game, a social fishing game called *Tsuri-Sta*, which was launched in 2007.

***Tsuri-Sta* can be** considered the world's first mobile social game, with players collecting equipment, organising fishing parties with friends and competing with each other. It still runs today and, accessible on pretty much every data-enabled mobile device via its native app and browser versions, it's testament to Tanaka's foresight. "In 2005, we really started thinking of how to go forward and I thought that in terms of making products it shouldn't be about this year or next year, it should be five, ten years ahead." He saw today's mobile-driven world ("Not everyone has a PC but pretty much everyone has a mobile phone") and built GREE around it.

"It's not the case that as long as you put in the effort then the time you spent ends up as a better product"

But it's taken the traditional Japanese game industry a long time to follow Tanaka's lead. "There are many that haven't turned to create social games," he says, pointing towards Konami's breakout hit *Dragon Collection*, released in September 2010, as the first example. Now GREE's number one thirdparty game, it reached six million users in April. "There was one quarter in which its profits did better than all their other software," Tanaka claims. "That woke up all the other console software makers. Social mobile gaming was the future; it proved that console game makers could succeed in that environment. We are seeing a shift from console games to mobile social games – that single title has had such an impact. Something to be proud of."

Tanaka's aim now is to reach the western market, which still lacks a large and unified social network dedicated to mobile. Facebook's business and its games remain focused on desktop browsers, while Apple's Game Center is locked to iOS. There's OpenFeint, though, a crossplatform social network built specifically for gaming, which GREE bought in April last year for $104 million, instantly gaining a foothold in the form of the 75 million users of the games that had supported it.

Now, though, the race is on to convince western developers to build their games for GREE's platform. In April, GREE released its first game from its US studio, *Zombie Jombie*, a simple free-to-play iOS card battler that follows the 'gacha' collection format that's found such success in Japan. Inspired by capsule vending machines, gacha has players paying for randomised items. *Zombie Jombie* is currently rated at over four stars on the App Store; "We've found that game has been quite well received by the American market so it's my view that the games we make in Japan should be well received," Tanaka says. Will *Dragon Collection* work, too? "Yes, I think it will."

With social gaming currently dominated by Zynga and its apparently inexhaustible acquisition funds, the west today isn't quite the virgin territory that Japan was in 2007 – but, again, GREE's unwavering focus on mobile makes it distinct. "There are many companies that say they want to make game platforms, and Zynga is one of them, but it's much harder to achieve than it is to talk about it. Over the course of two years, we've made a success of a game platform business."

Currently, that success is underpinned comprehensively by gacha. Apart from how well western audiences will take to something so culturally Japanese, it faces an uncertain future at home. Following the threat in early May that the Japanese government may regulate extreme usage of gacha, GREE and its competitors found their stock prices plummeting. What western governments make of it remains to be seen. Regardless, with Tanaka's focus and the momentum of its success in the east behind it, GREE seems sure to become the vanguard of a new wave of Japanese gaming. ■

CV

URL www.gree-corp.com
Selected softography *Tsuri-Sta (2007), Dragon Collection (2010), Zombie Jombie (2012)*





Places

THE NORMANDY

Mass Effect's key spaceship is far more than a space-age touring car

Catching up on the Normandy after missions takes on the air of doing a captain's rounds, helping you slip further into your role as a team leader

From *Mass Effect, Mass Effect 2, Mass Effect 3*
Developer BioWare
Origin Canada
Debut 2007



The Normandy helps to contextualise your plight, tying together the story and allowing you to drink in the scale of the universe

Commander Shepard is many things: hero, flirt, compassionate friend, callous pragmatist and more. But while BioWare offers a host of opportunities to steer your character's moral temperament and actions, humanity's first Spectre has constants, too. For instance, Shepard is always a ship's captain.

Of the two vessels to bear the Normandy name, both are remarkable. The first, the SR-1, is presented in the game's fiction as a prototype stealth vessel made with help from the once-hostile Turians. As such, it symbolises an uneasy truce between these aliens and the relatively new-on-the-galactic-scene human race, an alliance enshrined in sleek black and silvery grey. And in a series that's all about choice, asking how you'll respond to being the newcomer has become a key theme. What's your take on this weird assortment of often anthropomorphous aliens, with their tentacle hair, dinosaur-like builds and frog eyes? Do you trust them enough to sacrifice 'real' humans for them?

Ironically, giving players a ship is the very thing that grounds BioWare's foray into new sci-fi IP space. In one stroke, it provides you with a home, a mission hub, and, most importantly, time to get to know your squadmates. It's a soaring master class in how to create effective hub worlds, with both a sense of place and purpose that compels you to look past its host games' failings.

In some ways, the facade is obvious: step onto the platform before the galaxy map to hop about the Milky Way, or head to the hold to tweak your squad's equipment. And if the Normandy held these things alone, she'd be little more than a strip-lit level select and menu system. Her power lies in meshing mechanics with what the *Mass Effect* series does best: building characters.

Interactions aboard the Normandy SR-1 are mostly optional, though, allowing you to explore its pristine halls without feeling burdened by the need to tick conversational boxes before your next adventure. It's a subtle point, but a crucial one when the whole premise is built on choice. If you do pick up the threads of backstory and plot development with your squad, your reward is the chance to gain insight into their lives, loves and problems. It encourages you to invest in these people, both emotionally and via the kit and stat management systems, adding potency when you are forced to make hard choices about their lives.

Giving you command of them pins the epaulet of responsibility to your shoulders, too, which you can carry through to interactions elsewhere. And the quality time you spend with them means the game's controversy-baiting sexual relationships have the potential to hold real emotional weight, elevating them beyond mere carnal titillation (although the series does offer this in its club dancers and flirtatious supporting cast).

The SR-1 wasn't perfect, though: while your squad was often well fleshed out, repeat conversations with some crew members revealed them for the dialogue-spewing answering machines they were, breaking your suspension of disbelief. Take into account the game's other flaws – repetitive missions, overly complex kit management and more – and you can hardly blame BioWare for wanting to spruce the place up when the time for a sequel rolled around.

> Ironically, giving players a ship is the very thing that grounds BioWare's foray into new sci-fi IP space

But it did considerably more than that. *Mass Effect 2* kicks off with a mini-mission that sees the SR-1 torn to shreds in a dramatic space battle and soon replaced by a successor, the SR-2. The signal is clear: this is intended to be an altogether more action-orientated game, and the writers are prepared to turn their world (and yours) upside down in the name of spectacle.

Larger than her predecessor, slicker and shiner, but broken up by flow-halting loading screens, the SR-2 is again a clear mirror to the structure of the games it traverses. Her flaws have been buffed to a space-age sheen; her halls are aglow with bloom. Mechanically, character management is more immediate, with an optional auto-levelling system, and upgrade terminals on the SR-2 replacing tedious side-by-side item comparisons.

But the ship's VI, EDI, illustrates a shift in BioWare's expectations of players. While *Mass Effect* casts the Normandy's character as a subtle combination of the various personalities aboard her, BioWare's designers felt the need to go one step further and humanise that entity, first in a glowing sphere, and then even more obviously for *Mass Effect 3*. It's a move endemic to a pair of games that are more tightly designed, often more fun and definitely more 'gamey' than their point of inception, but that also distance themselves from requiring a commitment to the same levels of depth. For *Mass Effect 2*, BioWare happily rounds off its series' RPG edges in favour of getting bums – often belonging to gamers now smitten with the *Gears Of War* format – on seats.

But what seats they were, bolted firmly to a rollercoaster ride full of mechs, menace and biotic-based mayhem. You may have been served more compulsory discussions and lost the room to potter, but reduced freedom came alongside a sense of pace, and of an idea reaching maturation.

Mass Effect 3 retains the SR-2, and continues to chart a course toward immediacy at the cost of agency. For instance, a war room has been tucked into the SR-2's bowels, providing an excuse to funnel mission-focused conversations at you. But perhaps this suits its story. After all, there are more serious things to talk about than childhood dreams in a galaxy on the brink of extinction. ■





Things

COLE PHELPS' NOTEBOOK

LA Noire's take on the inventory menu is a hard-working piece of design

The notebook may appear to be a shallow inventory mechanic, yet it represents justice under adversity. Just when you believe an accusation warranted, it will always challenge you

From *LA Noire*
Developer Team Bondi
Origin Australia
First release 2011

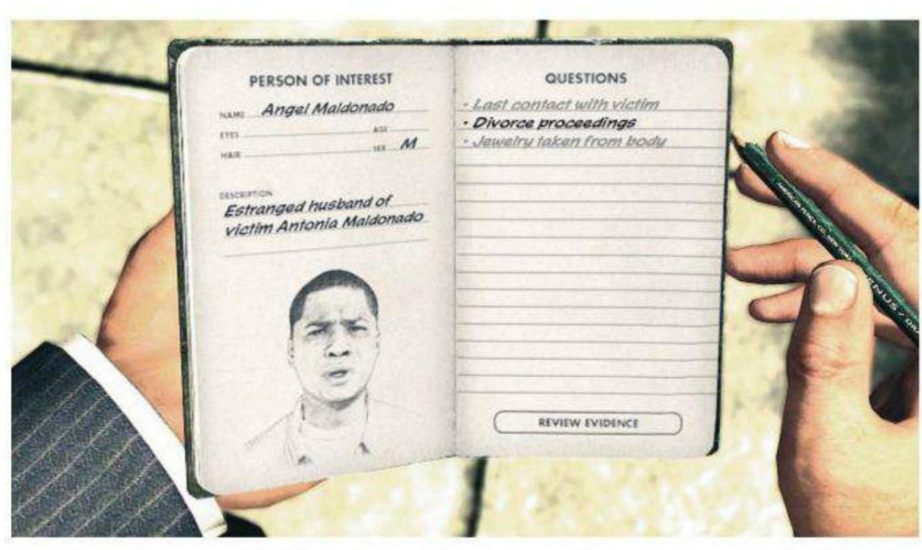
Cole Phelps may pack a sidearm, but his notebook is *LA Noire*'s most potent weapon. The game doesn't let players wreak *GTA*-style havoc on the streets of Los Angeles, and the reason why can be traced back to these pages – it's the tool that best showcases the way that *LA Noire* insists upon your allegiance to the law.

Phelps is a decent cop, or trying to be, but the story is happy to expose him to unseemly external pressures. When you're forced by your superior to get a conviction and damn the consequences, it's the notebook that demands you think twice. Starkly laying out a case in scratchily pencilled-in black and white, it offsets the humanity of *LA Noire*'s cast with cold, hard facts. And that cast – whether they're suspects or innocent bystanders – are refreshingly multifaceted; levelling a specious charge could ruin someone's life.

The game's use of detailed facial-scanning technology here is no coincidence. You can see every pore, every gesture and every hint that a suspect is terrified. These are real people. They have lives, husbands families and responsibilities. And they don't need you ruining all that with your false accusations. Be certain, the game warns you; check and re-check the evidence. *LA Noire* wants you to justify every accusation. Even if you're forced into making a charge, you'd better have a good reason.

During Phelps' stint on the homicide desk, a woman with a golden butterfly brooch is found strangled to death. Your partner rambles on, urging you to slap the husband in cuffs. It's always the husband, he says. Phelps scoffs, but after interviewing said husband, Hugo Moller, you come across some damning evidence – footprints at the crime scene, and an alibi that doesn't quite add up. Then the critical moment comes when you see him incinerating shoes.

After dragging Moller back to the police station, Phelps peppers him with questions: why did he burn his shoes? Did he have access to rope to strangle his wife? Where was he when all this happened? Moller acts vague and hostile. You're tempted to take your partner's advice and lock him away for good. The kicker comes when Phelps probes him over access to a bloody tyre iron, an item Moller denies owning. If players go the extra mile, they'll find the offending implement caked in blood in the trunk of Moller's car. So you go all in: he's lying.



The notebook guides you through *LA Noire*, logging your finds, reminding you of facts, and helping you identify misinformation

Be certain, the game warns you; check the evidence. LA Noire wants you to justify every accusation

"You've got no proof," Moller balks. Then, suddenly, the notebook flashes up in front of you, taunting you with a challenge: prove it. It's unusual for a Rockstar game – John Marston doesn't get a pop-up asking him if that thief really deserves to be hogtied and left on the railroad tracks. Max Payne doesn't think twice before clearing out a room, guns blazing. But Phelps is part of the system, not a rebel operating outside of it, and therefore *LA Noire*'s interrogations take the step of forcing you to justify your decisions.

As well as pricking your conscience, the notebook functions as a compromise between *LA Noire*'s cinematic ambitions and its mechanical necessities. In a game with such advanced facial animations, having to repeatedly dive into a menu to advance the story could easily have broken your immersion. Instead, that menu has been reimagined as a piece of period minutiae, as much a part of *LA Noire*'s world as the love letters and unpaid utility bills Phelps' casework requires him to sift through – all of which appear within the notebook itself as precisely drawn sketches, suggesting the kind of methodical attention to detail Phelps is known for.

It reflects the player's thoroughness as well, however, since it's a tool that's only as useful during interrogations as you are persistent when investigating crime scenes. Casting about for clues in *LA Noire* might be a throwback to point-and-click adventure titles, but the scenes serve an important mechanical purpose, too. Your finds are automatically catalogued in Phelps' notebook, appearing as questioning options and potential evidence during interrogations. Yes, those interrogations might at heart be simple dialogue trees, but the notebook gives you sense of ownership over each branch, helping to maintain *LA Noire*'s illusion that you're building a case, rather than simply being guided through one.

***LA Noire*'s poorly** kept secret, however, is that it doesn't care whether you look at the evidence or not – when you're forced to choose between two suspects, the story will continue no matter who you choose. You can put Moller away, or charge another, more typically shifty suspect. And while your boss will berate or cheer you for political reasons, the game itself won't tell you if your decision is actually wrong.

Yet this is exactly what makes it the notebook effective. The absence of immediate confirmations helps it stir your conscience, and tug insistently at your mind. The evidence is there – but did you miss some? Have you failed to spot the links? Maybe you don't have this figured out.

Some players chafed at the strictures of *LA Noire*, which offered an open city to explore but gave them little freedom to behave as they wanted within it. But that paradox was part of the game's central theme, reflected in the ordered neatness of Phelps' slanted, printed script on the notebook's ruled lines: for better or worse, you're responsible to the people of this city. Do your job in the face of uncertainty, and do it well. ■



STUDIO PROFILE

Camouflaj

Why would a veteran developer leave behind *Metal Gear Solid* and *Halo* for indie uncertainty?

From left: Ryan Payton, Ezra Hanson-White, Jeremy Romanowski, Patrick Acolese, Bernice Jing Ye, and Paulo Lafeta. The team occupies a run-down building that's scheduled to be demolished soon



Founded 2011
Employees Nine
Key staff Ryan Payton (founder)
URL www.camouflaj.com
Current projects *République*

Given the slick-looking art and well-produced promotional material for *République*, you could be forgiven for imagining that developer Camouflaj LLC was a well-funded startup with sleek offices. But next to the gleaming modern towers of Bellevue, Washington – which host well-established studios such as Valve, Sucker Punch and 5th Cell – the building that Camouflaj calls home looks as though it's seen much better days.

"The roof leaks when it rains, and the bathroom smells throughout the whole building," says **Ryan Payton**, the studio's founder and owner. "We have a really slow Internet connection. They won't upgrade the wiring because the place is going to be bulldozed within a year. If I need to send a big file, I go home and send it from there – it's faster."

There's good reason for the cut-rate digs, though: Camouflaj is operating on Payton's life savings. And the team's ambitious goal – to bring a weighty, emotionally engaging, narrative-driven stealth-action game to the iPhone – comes with the added mandate to do so while working with a fraction of the budget for a typical console title. This ambitious project will live or die based on the team's ability to make a little stretch a long way.

***République* is about** a tellingly named young woman, Hope, who is trapped inside a mysterious research facility. In an early demonstration of the game, we watch Hope through a hacked security camera as she navigates the totalitarian architecture of the environment. The camera view shows us something that she can't see: armed guards in the corridor outside. We tap on another camera to get a better view and notice a locker in the room, and tap on it to instruct her to clamber inside just as the guards sweep in. Hope is safe for now.

As a former employee of Kojima Productions, where he worked on *Metal Gear Solid 4: Guns Of The Patriots*, Payton often gets the comment that *République* – with its stealth-based gameplay, dramatic presentation, and a plot that immediately sets up multiple mysteries – seems to strike some distinctly Hideo Kojima-esque notes. But he plays down this particular comparison. "The biggest, most obvious influence from [the *Metal Gear* series] is that it's a stealth game. But I would say we have more in common with the original *Metal Gear* than we do with *Metal Gear Solid 4*, in



République **explores themes of control, surveillance and voyeurism through its frequent use of security camera views**

how your protagonist is avoiding combat. Outside of that, it's a very different kind of game. The way we've doing storytelling – you could say the *MGS* series is unabashedly an homage to Hollywood, and tries to bring Hollywood cinematic technique to the game space. That's not something we're going to attempt to do, or something we even want to do."

"We don't have a traditional management hierarchy, but I do want a little bit of 'auteurship'"

Still, evidence of certain Japanese game development ideas do surface in Camouflaj's approach when Payton later describes his ideal studio structure. "We don't have job titles or a traditional management hierarchy here, but I do want a little bit of… 'auteurship', for lack of a better word. I want to try to balance both – to give people autonomy while still having a creative vision for the game. I think a visionary can push a game in an interesting direction that a team might not go as a group."

After his time at Konami, Payton joined Microsoft's 343 Industries in 2009 (the inheritors of the *Halo* franchise) as a creative director. But in September 2011, the two parted ways before a title was released. "I just wasn't happy," he says of his experience there. "I have a weird creative urge that just wasn't being fulfilled, and I saw this revolution happening with independent games. I feel like the technology is where it needs to be now, and that the barriers to getting a game to market are coming down now. I wanted to be a part of that."

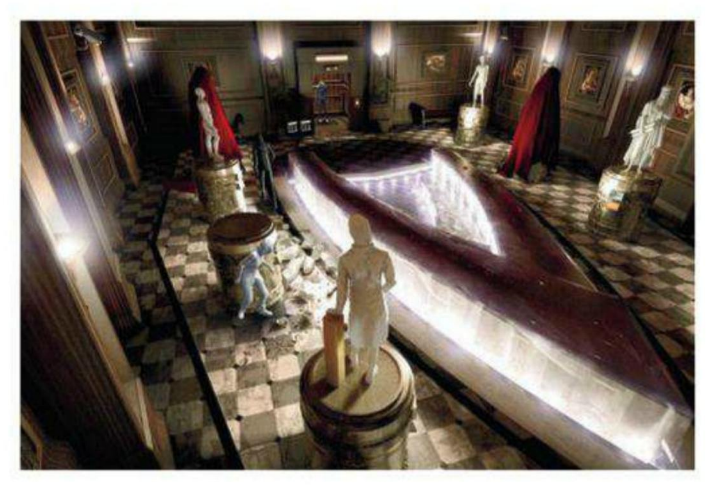
Free to brainstorm on his own, Payton thought about the ways players developed connections to videogame characters, and wondered if the narrative techniques used for that purpose could somehow be married to the ongoing iPhone revolution. Early on, he had an image of a player's phone ringing with a video call from a young woman in danger, seeking the player's help to escape a sinister research lab in which she is being held prisoner.

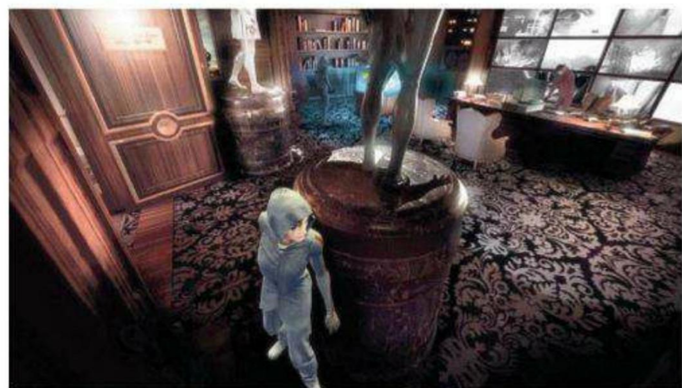
From there, the basic idea quickly coalesced: in addition to the videophone segments, the player would be able to view images from security cameras mounted throughout the building. That fixed view recalled the way classic PlayStation titles, such as *Resident Evil*, displayed three-dimensional characters over static, prerendered backgrounds. Using that technique on an iPhone would allow for more detailed environments and higher-resolution character models.

To push the envelope of graphical fidelity further, Payton sought out some of the same partners he worked with at Kojima Productions and 343 Industries. One of those was Los Angeles-based production company Logan, which had created the live-action video segments at the beginning of *Metal Gear Solid 4*. Logan's owner, Alexei Tylevich, had long been interested in game development, and the two struck up a conversation around Payton's ideas. Soon, they had agreed to work together to produce what became known as *République*.

It's an unusual partnership, not in the least because Logan, while highly experienced in film and television, had never worked on a game before. "It's been an educational process on both sides," says Payton of the collaboration. "[Logan] usually works on traditional television and film, so the biggest thing we've instilled in them is the idea of iteration. Games are highly iterative, and that can affect art, story, and everything. That's something they weren't anticipating – that whatever they were submitting as art probably wouldn't be final for a long time."

Payton also convinced veteran actors David Hayter, famously the voice of Solid Snake, and Jennifer Hale, best known as the female





The game takes place inside a totalitarian 'secret nation' where communication with the outside world is punishable by death. While the adventure was previously due to be an iOS exclusive, the funding campaign has helped prompt a PC and Mac version into development

Commander Shepard in *Mass Effect*, to come on board. If it feels like he's calling in every favour and using every connection he made in the past to make this project a reality, the truth is a little more subtle. "It's not really about favours or the PR value of having someone on the project. It's about returning to the relationships I built over the years and people that I respect and want to work with again. This project is all about relationships."

Producing a game this way comes with inescapable costs, however, no matter how much goodwill the parties have towards each other. And with Payton's meagre seed money rapidly dwindling, the company needed to quickly find a partner to get the funds necessary to complete the title. But the deals on the table were stark and difficult to accept: 'If we're going to fund your game,' they said, 'we're going to own what you produce too.'

Just then, Double Fine's *Double Fine Adventure* Kickstarter project took the videogame world by surprise, riding a groundswell of popular support to gather over $3 million in contributions – far above its initial goal of $400,000, and prompting talk of a revolution in the way videogames are funded. Was Kickstarter the trend that might ultimately upend the traditional publisher-studio model?

Industry changer or not, what was immediately clear was that if Camouflaj could sell the gaming community on its vision – as Tim Schafer and Double Fine had – it could achieve the buy-in it needed on its own terms. The team raced to put together a Kickstarter project of their own, quickly creating a new trailer, designing reward tiers and steeling themselves for a PR blitz. It sought half of the proposed budget for the title – $500,000 – in a bid to help the company retain ownership of its creation in whatever deal it would eventually make with a funding partner.

"Biggest day of my career. No idea what to expect," Payton wrote on Twitter the night before the Kickstarter page went live. Once it did, the team embarked on a whirlwind tour of the media in order to get the word out about the game, doing interviews and podcasts and answering questions from backers. And it posted a series of video updates to provide insight into the game's development process.

The Kickstarter page and resulting publicity had the side effect of opening up Payton's ideas about the future of the industry to the harsh scrutiny of the Internet's gaming faithful. *République* became somewhat controversial – a talking point about how devices such as the iPhone were changing the gaming landscape. By explicitly targeting iOS to the exclusion of other platforms, some gamers felt threatened by the project. "There are people out there who say they hate iOS and they hate our game," says Payton. "They think that if we succeed, we're going to contribute to the downfall of the traditional console business, and PC gaming too. They think Apple will take over the industry."

> "There are people out there who say they hate iOS and hate our game – they think Apple will take over"

Others looked sceptically at the $500,000 funding goal. Did it really need all that money? "A lot of people aren't exposed to the true cost of making videogames, and there's a lot of misinformation online about how much games cost to make. They don't understand how this game could cost a million dollars. I honestly thought we'd get that question but in the other direction: 'How is this game going to cost only a million dollars?'" Payton laughs. "In any realm, this game is a bargain."

In spite of the team's efforts, funding struggled to gain the kind of momentum that Double Fine's project enjoyed. "I realised that this was going to be a cage match to the very end," Payton says. The team distributed wallpapers and avatars urging people to 'Keep Hope alive'.

Midway through the campaign, Camouflaj announced that PC and Mac versions of *République* would be developed concurrently with the iOS version. This was partly a reaction to the feedback online, although the team discussed the design implications of accommodating a potential keyboard-and-mouse control scheme, and eventually concluded that going multiplatform was the right thing to do. But while it resulted in a small bump in contributions, the needle still didn't move as much as it needed to. The game's existence initially as an iOS exclusive prevented it from becoming something that users of either platform could forcefully champion, and the majority of the backers still picked the iOS version of the game.

Payton came to terms with the idea that his Kickstarter campaign might not be successful. He pointed out to himself and his team that it would be a positive whether or not it got funded— the publicity had put the studio on the map, and had already resulted in conversations with new potential business partners.

But the last two days of the campaign proved to be the most memorable in the studio's short life. As the contribution period drew to a close, the sheer drama of the way *République* teetered on the edge of successful funding became a story in itself. News of the situation raced through social networking sites; it felt as though the entire videogame community was holding its breath. A flurry of last-minute contributions flooded in to the project in the last 24 hours, bringing the total to $555,662— just a sliver over the amount the team had requested.

"We did it! It's over! What a ride!" Payton wrote to backers just after the contribution period ended. "We've been funded for over an hour now and we're just glowing over here."

Now, of course, the real work starts. Camouflaj has high-reaching goals and limited resources. It hasn't yet been proven that the type of game it wants to make really works on iOS, and the real limits of the platform with regard to important features such as character performance still aren't well known. And there's the question of the audience— the question that caused so much argument during the campaign. Will hardcore console and PC gamers be convinced to show up at the iOS table? Payton believes they will. ■



Ezra Hanson-White
Designer

What are some of the tools and technologies that you're using to develop *République*?
We're using Unity to develop *République*. I could gush about how awesome Unity is, because it just is, especially when it comes to quickly getting our ideas and content running in-game. On the design side, we've been using SketchUp to rough out levels and combining that with the PlayUp plug-in that links SketchUp and Unity together. Within Unity, we're fine-tuning the import process to parse objects from SketchUp and attach the appropriate functionality automatically. Overall, it has made the process of iteration very smooth.

How have you adjusted to iOS development after working on PC and console titles?
Adjusting to iOS development hasn't been that crazy. In a lot of ways, it's familiar territory when it comes to daily routine. The bigger hurdles have been more related to how the device is used, the touchscreen, and the varying lengths of player engagement. Those adjustments aren't necessarily bad; I look at it as a fresh challenge!

Have you encountered any difficult design challenges in bringing a console-style narrative game to a smartphone?
A lot of the design discussion and exploration has been centred on focusing the player's interaction into manageable chunks of time for iOS and being flexible with on-the-go play while still retaining an engrossing experience – we definitely don't want to sacrifice that. To deal with this, we're trying to provide a lot of options. If you've got 15 minutes to spare, you could work with Hope and make a run on a target of interest. If you only have five minutes, you can challenge yourself to beat a par time, utilising more pre-planning and sabotage. If you only have a minute, you can check in on the surveillance devices you placed the other day – what new information have they gathered? If you're in it for the long haul, you can tackle everything all at once.

Does a touch-based interface have particular opportunities or drawbacks ?
République's premise of communicating with and assisting Hope via an iOS device lets the player interact with the game in ways that people have already become accustomed to doing on their phones. That's a great opportunity, so we're excited about building on that connection while striking a balance that's both innovative and playable. The fluidity of swiping across the screen, then pinching to zoom in on a door, jacking into its control panel and manipulating it with touch feels great.

We're aiming to pair natural touch actions to familiar expected results. At first, we just thought pinching and zooming would be cool, but the area of pixels a finger touch covers is pretty varied. "Is the player trying to activate that object or direct Hope?" We then found that pinching in was a good way to assume the player's intent – they've focused on that object, they want to manipulate it. It's discoveries like these that reaffirm our beliefs and game vision.





Payton explains that main character Hope "is not a marionette for the player to manipulate, but rather a smart, believable, and empathic hero"



THE MAKING OF...

Fuel

How 200,000km of road less travelled turned into the biggest car game to date

The library of vehicles was too large for Asobo to test every combination, which led to the class restrictions modders were quick to remove

Publisher Codemasters
Developer Asobo Studio
Format 360, PC, PS3
Origin France
Release 2009

People who've played *Fuel* a certain way will tend to look past you when asked what it's about. Their eyes might narrow as they mutter something about mountains, tornadoes, skyscrapers buried in sand, brush fires, shipwrecks, and a ghostly airbase in the heart of the desert. They'll talk about rumours, serendipity and the biggest landscape in videogames.

Fuel is an open-world racer with more than 200,000km of road, set in thousands of square kilometres of post-apocalyptic US wasteland. Home to extreme sports and even more extreme conditions, it's like *MotorStorm* shot by George Miller. A road movie, then, which only really gets going when you clear all your waypoints and just *drive*. That's when the spiritual journey begins.

If that's not existential enough, turn the clock back a few years and there wasn't even a driving game at all – just a man, standing for the first time in a gigantic world made by computer.

"It started with us saying: 'We can build these big worlds now, but how do we fill them?'" says Asobo Studio head **Sébastien Wloch**. "We can't hire 2,000 people to just build worlds where, if somebody gets something wrong, we have to change it and build it again. To make quality games, you need to iterate a lot. If a world is all manually built and you decide that the roads are too large, whether it's racing or action-adventure, you can't just redo everything. If you want shorter distances between missions, you can't just say, 'Oh, we'll have you run twice as fast.'"

Asobo's solution, procedural content generation, is nothing new: the principle dates back to games such as *Elite* and, more recently, Avalanche Studios' *The Hunter*, or online shooter *APB*. To tweak the formulae of how these games play is to reprogram the equations that build where they're set – a process which is, by necessity, 100 per cent automated.

Wloch explains: "Technically, everything in the game except textures and meshes is procedural, and it's all generated while you're playing, on-the-fly. So instead of streaming stuff from the disc, it's generated in front of you. All the geometry you see, except houses or trees, is generated, and there should be no programmer intervention anywhere. Because if we do that then you cannot iterate any more; if someone's been putting stuff around the place, it'll all have to be moved."

The studio was moonlighting at this point, squeezing in *Fuel*'s R&D between more conventional projects. In those moments it improved the technology and explored the worlds it could make in firstperson. Then someone suggested: 'Put a car in there – it'll be easier to explore and fun to drive about.' In an office full of racing fans, this inevitably became: 'I want to drive against someone.'



The tech behind *Fuel*, built by Asobo (above), could be used again, but for now the studio is working on Pixar franchises

"So we put some online code in there," recalls Wloch. "This was very early – around 2005, when people were only just starting to do online racing. So we put some code in there that just put a target on the map, then put the players on a starting grid and let them go. It stayed like this for quite a while and we just improved it, activating the project whenever we had time. The technology could do many other things, but it sort of organically became a racing game."

> "The designers had big maps of the world and were simply painting the difficulty on"

Fuel was signed up by Codemasters, becoming an unlikely stablemate of some thoroughly handcrafted racing games. Comparisons to *Colin McRae: Dirt* in particular highlighted just how far the tech had to go before it could imitate mother nature. The art of forming stones, potholes, ditches and the like without leaving robot fingerprints was the next challenge.

"[Codemasters] sent us images of ditches in *Dirt*, so we did it better and better and better," says Wloch. "The same thing for road lines and holes in the road – how large and how often, depending on the type of road. How sharp the turns are, how easy, and then the types of dirt road: heavy or thin. These all had influences on potholes, and all of this together creates difficulty. So the designers had big maps of the world and were simply painting the difficulty on.

"Then it's about adding those generated details. Some needed to be consistent and rule-based, and some of the stuff is just noise. Stone size depends on where you are, but once you know the average it's about these little things to destructure it. There's always a considered formula behind it that decides what the world looks like: *why* there's a turn, a ditch, etcetera."

He likens what happened next to a rally organiser scouting for venues. Could the science of *Fuel*'s creation yield the chemistry of a thrilling race? "The world was in place pretty early, almost 18 months before the release date. It was stable. And we spent a lot of time just driving around, exploring and saying, 'Oh, this would be a nice spot to have a race.' Many of the races were built like this. Then there was an additional iteration where it would be even better if a turn was a bit wider, and so we came in and changed it. Because sometimes the race was perfect, but there was a nasty turn, so we'd just take that out."

This wasn't just for players' benefit. As well as spawning the world in realtime – in other words, assembling it on the fly rather than streaming it from the storage medium – *Fuel* had to know how to race it. One of the game's bravura features is the ability to just drop start and finish lines anywhere on the map and then battle the AI for the podium. How does this work in a map the size of Connecticut?

"There were many challenges," admits Wloch. "The AI system is really complex. It has several layers, and the AI is using the road system almost like a GPS map. Because you can literally build a race from one end of the world to the other and the AI has to do it, and take an intelligent route; sometimes the dirt road is straight, but the tarmac road goes around, so which will it use?

"There's lots of decisions, various weights you put on the roads, depending on vehicle. Then there's a layer below where each AI has an awareness of the environment for a kilometre around it, and knows that environment in detail. They know every tree and every hill, and if there's a road that's tarmac then they're able to compute a shortcut that will make them faster. There's never an area bigger than a kilometre where you don't have some little hiking pass."

It was around this time, with most of the ingredients of a very extreme sports game in place, that something appeared to be missing. Or, to put it another way, too much appeared to be there. *Fuel*'s world was so colossal that its assets were overstretched, while its procedural instincts were untamed. This wasn't necessarily a bad thing. "The system was sometimes able to

put an object at a position that was good," explains Wloch, "but to have it perfectly aligned would have been another month of work on that area. But if it's supposed to have been destroyed by a hurricane, then it's OK when it's not."

Chaos, he tells us, went from being a problem to a solution, a way to stop the game looking repetitive while embracing its more feral behaviours. And so it overtook history, becoming a kind of Mad Max affair full of derelicts and motorised gladiators.

"The initial idea for that really came from positioning," notes Wloch. "Very early in the project we wanted it to be more like an extreme sport sort of thing, with hubs where they do events and stuff. But the post-apocalyptic thing allowed us to have more original vehicle designs. It's so hard to get noticed when the racing game market is so crowded, and the big environment thing is something that needed a visual identity, so that when people see it they know that it's *Fuel*."

A quite flabbergasting bit of trivia is that *Fuel* was at one point supposed to be even bigger. Five times bigger in fact. Which implies a million kilometres of road for petrol heads to traverse. "We wanted to have five of our worlds," says Wloch, "and each would be a different area: canyon world, Yosemite, etcetera. But when we did that, driving 100km of Yosemite just looks the same, so we said, 'OK, it's going to be so much work to make this all look different.' It's more intelligent to put the Grand Canyon in there, desert, ice… Put it all in the same world. And once this was done, we said, 'OK, we need more variety, so let's put a layer of burned, flooded [land and] sandstorms, tornadoes…' You drive around and there's always something."

It's just as well *Fuel* wasn't five times bigger. That would, presumably, have killed Codemasters' entire QA department and any chance of squashing the game's bugs. Someone somewhere would have lost their mind playing it, too. Because it had to be played, of course, in as thorough a way as its publisher could invent.

Each new build of *Fuel* required a week of testing – enough to cover all the races and challenges in the game – and Wloch believes it would take a individual player a year to drive the entire map. Asobo had its own on-site QA, while Codemasters sliced the map into a grid and assigned a different sector to each member of its team. Nevertheless, testing a game built by a single set of instructions was a world apart from the standard procedure.



David Dedeine
COO, Asobo Studio

How did you arrive at amassing 70 different vehicles in the game?
Lots of people were involved: we hired a very talented designer from the real-world car industry, mostly because we wanted to be true to the genre; our great art directors, who are all fans of cars, collaborated a lot with him; and this was combined with the right outsourcers.

Why did you feel that number was so important for the game?
Two main reasons. We wanted to convey the universe of *Fuel*, making it credible and huge: there are no industrial products any more, just hand-crafted vehicles that are always different. The second was that we had six different classes: Moto, Quad, Buggy, Cars, SUV and Truck. To give enough rewards and unlocks per class, we needed that large number.

Were there any extremes you weren't allowed to go to?
Not really at the beginning. Due to the universe, everything was possible, which is actually a risk, because we wanted to keep the *Fuel* identity. We created many more vehicle art concepts than we actually used. Some of them were fun, and even really innovative… but not 'grounded' enough. We didn't want sci-fi or to get too close to Mad Max. We wanted to focus on free-racing performance vehicles.

"It was a pretty weird experience for them, because usually when you have holes in the environment, you report every one. Or if there's a street with a yellow line – a glitch at a crossing or something – people tend to report them all, because it's all handmade, and you have to fix them one by one. We had to teach them: 'No, no – it's all the same code. If we fix one glitch, then we fix every glitch. There are over 400,000 road crossings in the game, so you don't report 400,000 glitches.'

"We had other things, like crazy bumps in the road, or road signs in the middle of them. If it was handmade, you'd think, 'Was he drunk or something? Why did he put a house in the middle of the road?' But it's just a bug in the formula. And you had to test for all the combinations, all the vehicles. And the vehicles had such strongly different driving models that you had to make sure you could finish the race with each one, and that they're all competitive. It just wasn't possible."

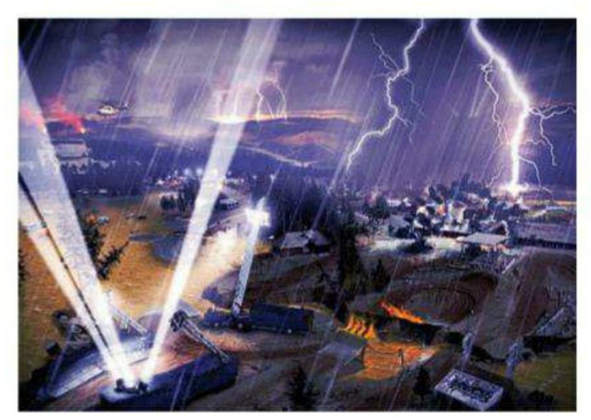
So Asobo restricted the selection, leaving modders to eventually open it back up and unleash barely tested hell upon the PC version. There are dynamic tornadoes in there, too, which randomly wrecked the environment and were duly switched off before release. "There's 200 tornadoes, because the world's so big, and you have to test all the tornadoes with every vehicle, destroying every barn and stuff like this. It was just too vast. Thunderstorms are different, because they don't do so much damage, but tornadoes just broke everything."

To make matters worse for Codemasters, the game's side challenges were dreamed up by the same procedural brain that built its roads and scenery. It could have built a million of them, but rather sensibly settled for 'just' 2,000. All of these had to be auditioned and whittled down to the final roster of 160, "and they weren't always fun," admits Wloch.

Fuel had a mixed reception upon release. Criticisms were levelled at its most routine aspects – things like race competitiveness and the grind required to unlock its rewards. Valid points all, but really just a prologue to the cult of *Fuel*, which built up around the scale of its world and the journey – internal, enriching, uncharted – that waits within its vast, unconquerable landscape. There are mods and there are online co-op car clubs, while graphics technology is finally catching up to the game's uniquely troublesome renderer.

Asobo, meanwhile, has resumed its work at the more casual end of the market, establishing itself as a loyal collaborator with Pixar on games such as *Wall-E* and *Ratatouille*. Its latest is *Kinect Rush*, a visually pretty Pixar ensemble that introduces KinectScan, a technology that turns your features instantly into a stylised avatar. In between those games, meanwhile, work continues on *Fuel* – well, sort of. It's just the technology, stripped of context, but improved since the game's 2009 release.

Does that mean that *Fuel 2* is on the way, then? "The project behind *Fuel* has lasted several years and there's been background research and development," says Wloch. "It's been put on pause for a year, turned back on… I can't say if there'll be another racing game, or a sequel, or something different. Because it can be used somewhere else. There's so many things we've learned with that. All these things are really easy to reuse in different projects, so there's probably going to be stuff one day. But *Fuel* took seven years overall, from spark to game, so maybe it'll be another seven years before we do something else. But it's not something we just throw away." ■

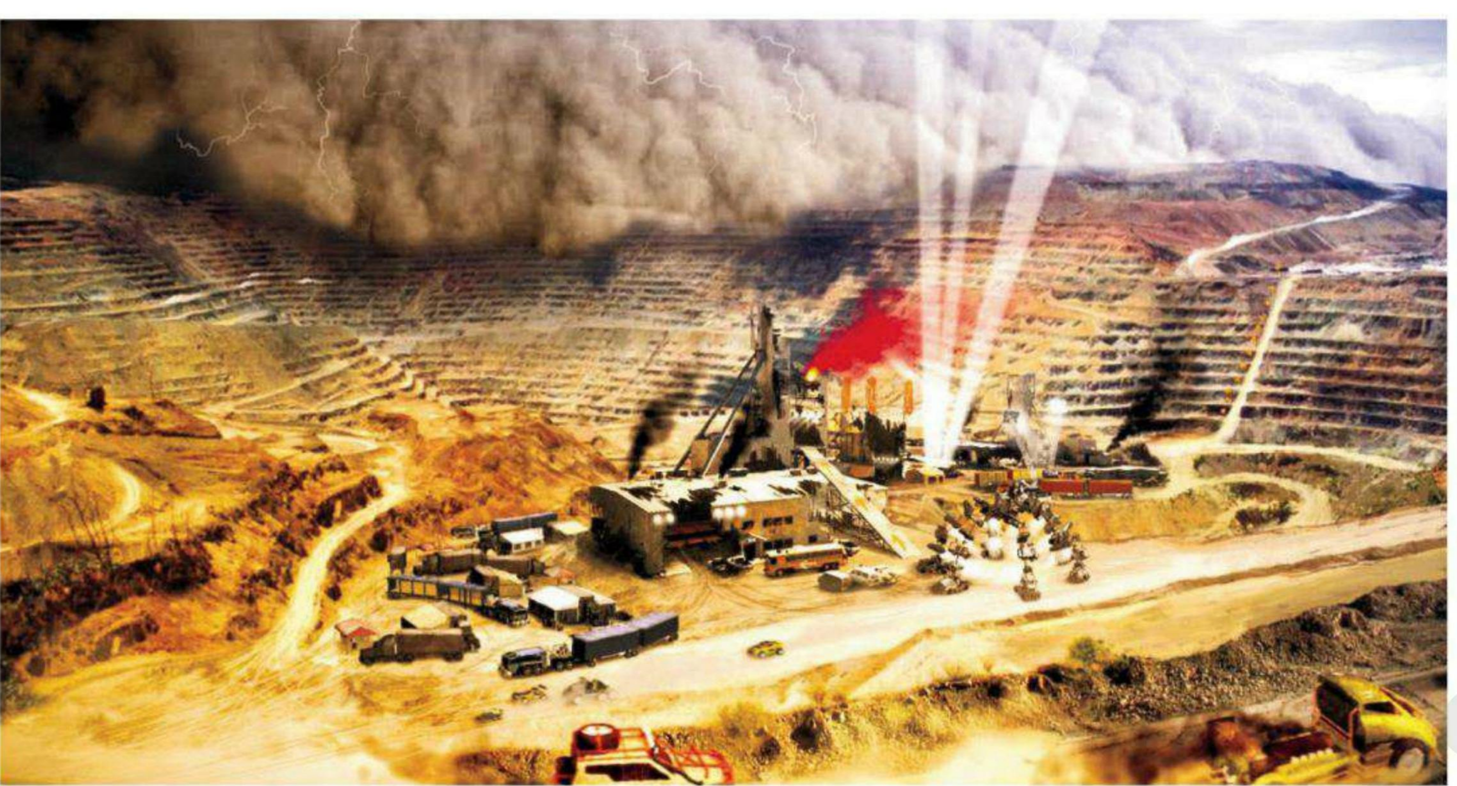




ABOVE **Including bikes in your game means having to include bikers, of course, which is yet another thing that needed to be designed and built for *Fuel*. Players these days expect a certain level of avatar customisation**



ABOVE **A generous number of liveries supplied variety, as did different driver models**



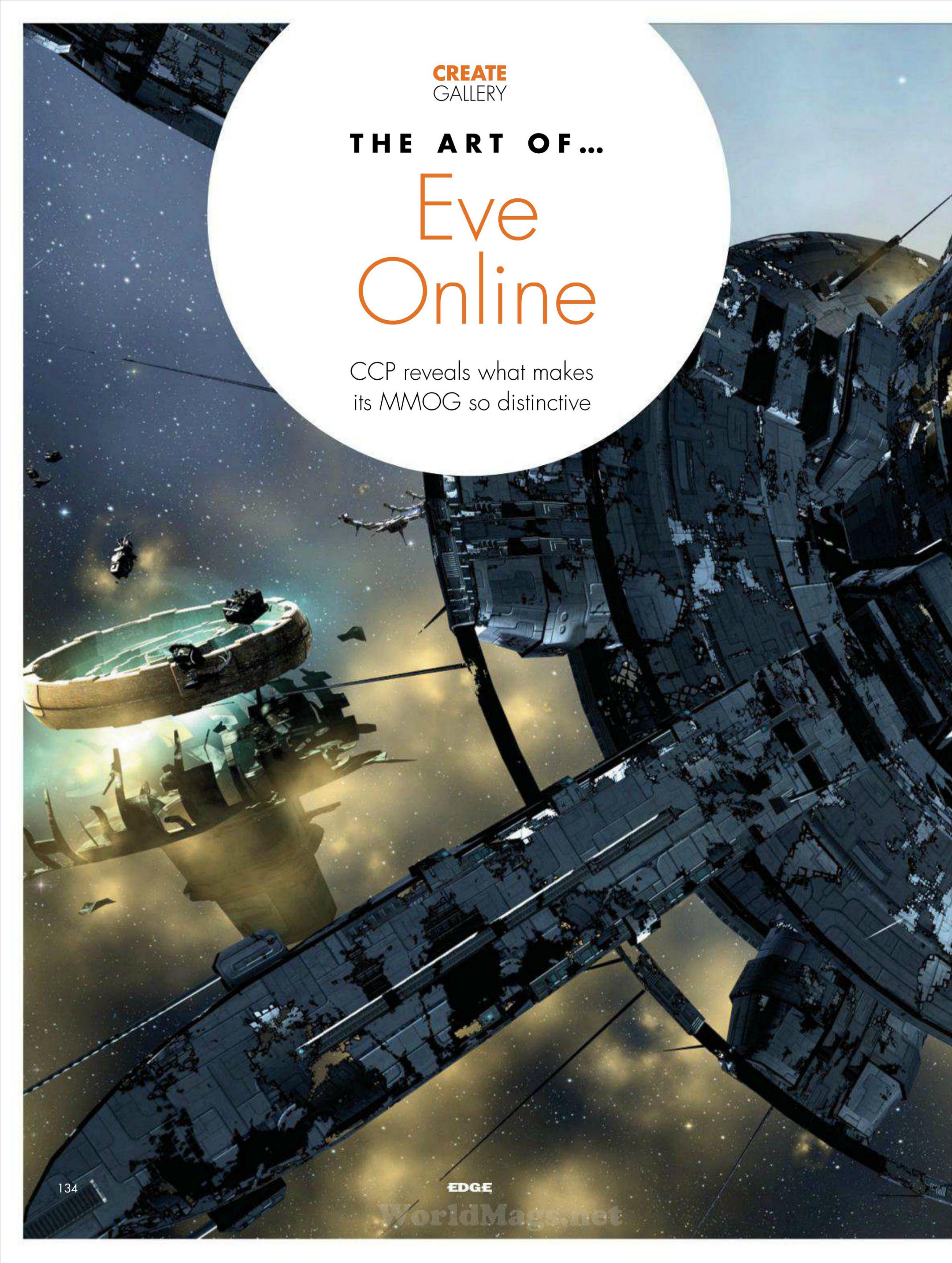
Off-road

Fuel is a very exposed game on PC, meaning that a great many of its variables can be changed with a mere text editor. This has inspired *Fuel: Refueled*, a mod that, among other things, reworks the game's interface and all its races; improves environment effects and vehicle handling; tweaks gamepad controls; adds user-created script support; and unlocks all vehicles for a free roaming mode. Running the game in a window unlocks the potential mayhem of its developer system menu, giving you further control over its weather system, night/day cycle and renderer.

Strangely, the Codemasters forums on which this started haven't been too friendly, closing threads and generally wagging fingers. You'd almost think that giving the game added longevity and character was somehow a bad idea. Just as well, then, that both conversation and downloads remain at www.moddb.com/mods/fuel-refueled.



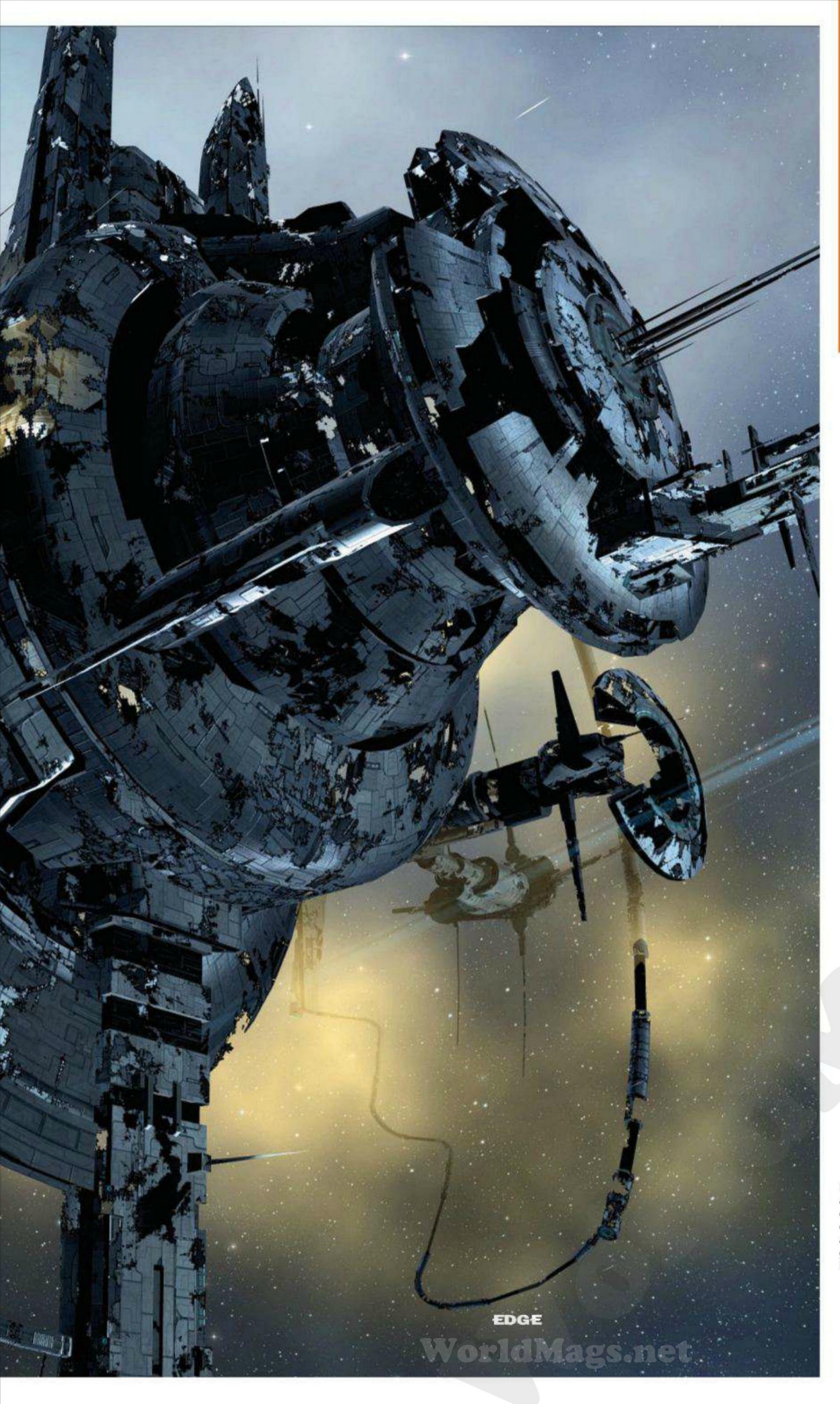
The helmets had to stay on, despite the risk of the drivers becoming homogenous. To expose the faces would, without an extra layer of customisation, have meant an even more ridiculous army of clones



THE ART OF…

Eve Online

CCP reveals what makes its MMOG so distinctive



This article's images appear courtesy of game art site Dead End Thrills (www.deadendthrills.com)

Each of *Eve*'s races has a distinct visual identity, drawing from a defined pool of references and all built by an individual artist. The game's idea of sci-fi owes a lot to 80s film, however



Torfi Frans Ólafsson
Creative director of
Eve Online, CCP



Warping across a single star map shared by tens of thousands of fellow 'capsuleers' isn't the only draw of *Eve Online*. Ironically, it's the supreme hostility of that experience, felt in every aspect of CCP's art design, that's made the MMOG so intriguing to outsiders and valued to its players. Months after its most controversial updates and days after an attempt by players to literally blow up its economy, creative director **Torfi Frans Ólafsson** reflects upon its journey.

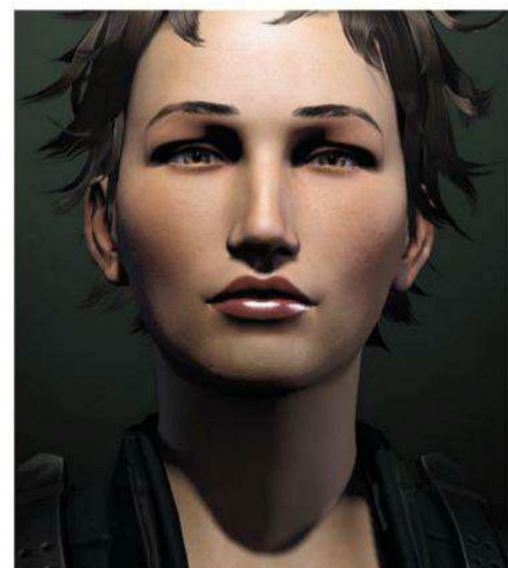
What influenced *Eve Online*'s aesthetic?
It's fairly obvious: I think most modern sci-fi is heavily influenced by the wave of sci-fi films of the '80s. Ridley Scott and James Cameron established what sci-fi should look like – and also comics like Heavy Metal. Those were our inspirations. And there were a couple of design decisions taken early on. First off, the theme of *Eve* is very dark – it's harsh. It's an MMOG that's supposed to be unforgiving. The original *Eve* designers were player killers in *Ultima Online*, so they created a game about that mechanic. And it's inspired by Iceland, by the Viking era and the way that nature just simply kills you if you choose to ignore it.

Second, we wanted to go beyond the typical fighter jet spaceship. We thought that in space, because there's no air, a ship doesn't have to be aerodynamic. We wanted ours to be different, so we decided to make them asymmetrical. We've moved a bit towards symmetry in our later designs, where it was just getting a bit silly how asymmetrical ships were.

And the races influence the ships too, right?
There are five races, and we wanted each to be very [distinct]. We had a very small art team, and of course the assets were of a lower resolution than they are today, so the way we ensured [we had] that flavour was to have each race built by an individual artist. The Caldari are militaristic, functional, cold; Gallente are more aerodynamic, smooth – art nouveau almost; and the Amarr were heavily influenced by Roman Catholicism and the Ottoman Empire. We sometimes snuck in Oriental influences, too, but always from theocracies like Constantinople. That's what the Amarr represent. When designing the ships, we were often studying Gothic architecture and all kinds of religious objects, like goblets… And then for the Minmatar there was an obvious choice. They don't have a lot of resources and are the freed slaves, and what we were thinking [was] basically Mad Max: retrofitting engines and fitting stuff that wasn't designed to be used in that particular way… You see a lot of rust there, solar panels, and makeshift things. Finally, the Jove: their designs are organic. Later, we discovered they have [a lot] in common with the Vorlon from Babylon 5. And we're inspired by

***Eve Online* may aim to be harsh in nature, but CCP has worked hard to avoid the bleakness of visually empty space, preferring to colour its universe with stars, blossoming nebulae, and organic planets**





deep sea creatures, those critters you find 8km down with glowing antennae and so on.

The characters in *Eve* have a strong genetic look that governs the portrait generator.
It was a very conscious decision to make the character archetypes strong and not have a generic system that would allow you to create everyone. One of our inspirations for the character creator, on an abstract level, was the '90s raytracing program Bryce, [which] allowed you to create these amazing landscapes compared to anything that was going on back at that time… But the thing is that it always looked kind of the same – just mountains with maybe a sphere and some clouds. Had Bryce been a general-purpose 3D package, [its users] wouldn't have felt so empowered, because most people using it weren't professional landscape artists, just as most people using the character creator aren't professional character artists.

Nebulae are a huge component of *Eve*'s look. How did they evolve?
We're fairly bold in placing nebulae all over the place. Without them, the space scene, which would basically just have a planet and a ship, would look so stark and empty. And we wanted space to be more luscious, because space is full of colour and beautiful shapes and patterns. However, we were dead set on not using photo references or Photoshopped pictures – they just looked so out of place, especially back when CG was less realistic. The contrast was just so jarring when you'd place a 3D model next to a licensed JPEG from Hubble. So we went to a lot of trouble to raytrace them, and used software that was intended for raytracing clouds in films.

Did you ever consider procedural generation?
I played around with that and just couldn't get it up to the visual fidelity the raytraced nebulae had. I attempted to do that, to have backdrops procedurally generated from a bunch of different sprites. There's always the dream of doing procedural, but you have to invest a lot of tech time into it… We experimented with a number of things. We played around with fluids, for example: we had a fish tank and were dropping ink into it and taking pictures, trying to use that. And the surfaces of the original planets were food. We went off to the kitchen and played around with ketchup, soya sauce, and all kinds of things. We put them on plates and took photos, and we warped them into planets and used heightmaps. ■



What Games Are



TADHG KELLY

Getting it right

One of the most maddening aspects of developer culture is hagiography. We tend to romanticise the past as a golden age when all were free to make whatever they wanted to, and all that was made was good. We tend to believe that much of what we see released these days is impure, untrue or just 'wrong'. Something about newer games screams copycat, thief or poor execution. It's as though we can see behind the code to the corporate paymasters who commissioned it, rubbing their hands together in glee at having duped player-sheep once more.

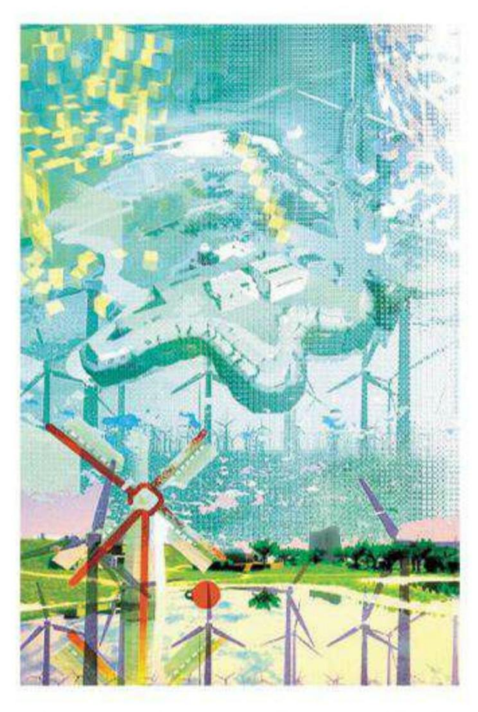
However, sometimes a game developer who understands this gains a sudden and vast amount of success from a hit that passed our cultural test, and so he becomes a hero of the Reformation. Sometimes heroes feel uncomfortable in receiving this kind of adulation, but others like it. They consider it a chance to right those wrongs.

Enter Markus 'Notch' Persson, creator of *Minecraft* and most recent graduate to the hero club. With a programmer's beard and an affably honest Twitter presence, he seems to be one of the heroes who harbours a desire to set the world to rights: he even wanted to fund Tim Schafer to create a sequel to *Psychonauts*, a game that many fans believe should have done better than it did.

Notch's new project, *0x10c*, is a space game. He's developing it by himself first, as he did with *Minecraft*, and intends to release it slowly to the world. It won't be hard sci-fi, but softer and sounds like it will be more pilot-focused than strategic. He seems to want to build a game that harks all the way back to *Elite* and *Frontier*, mixed with the space combat of mid-'90s shooters like *X-Wing*. His intent, which he declared on Twitter, is to create a space game 'done right'.

'Done right' is not a defined term, but my sense is that it means executed well with a serious nod to the past. It's about invoking how games of the genre should be, looking at original texts and proclaiming that everything since all has been corrupted. Like the historical Reformation kicked off by Martin Luther in 1517, it's about getting back to the beginning and this time doing it right.

In short, it's about heritage. But most heritage is pure bullshit. There are many examples of past



Chasing the past shows a lack of ambition. Compare 'done right' with the wild ideas of Jonathan Blow of Braid fame

games that should be instructive for the future, and many designers could do with knowing more about old glories. If you are creating a space game, for example, it's a good idea to play some of the classics and see what worked. The cultural preservation of games is also important, but that has been a hotbed of debate for years, because the techniques required to preserve those games are considered copyright infringement.

However, there is a difference between understanding history and constructing a heritage. Heritage implies a narrative, a passing of the torch and a sense of mission. It says that not only did David Braben and Ian Bell create a great game back in the '80s but that they actually started something. So the sense that the games which followed were wrong comes from the story that Braben and Bell's work supposedly told.

People who study how others purchase products call that a marketing story. It's the same sort of motivator that drives interest in antiques, artisanal restaurants, and so on. In geek culture, it's reflected in the interest in superhero franchises, collectables and retro games. Whether he realises it or not, Notch taps into something the market believes – a sense of heritage and loss (which isn't actually real) by which it defines an identity. Is that a problem? Possibly.

The first question is whether chasing down the idea of 'done right' leads the developers into a purity trap. *Minecraft* appealed to the heritage fans aesthetically but turned out to be a gigantic creative sandbox, so purity wasn't a problem. It wasn't really comparing itself to anything, instead showing off an idea that turned out to be cool.

Directly associating yourself with the past is a much stickier affair, since everyone's idea of 'done right' is likely to be somewhat different. Also, once seen, won't the appeal quickly fade regardless of how correct or not the game is? I suspect most of us enjoy loading up an old game for nostalgia's sake, but how often do we play it in depth?

Furthermore, chasing the past shows a lack of ambition. Compare 'done right' with the wild ideas of Jonathan Blow (of *Braid* fame). His new game, *The Witness*, is risky and ambitious. It might not even be a game at all. However, it's promising to be something new, and over any given time new usually beats old. Even if you don't find yourself suddenly wealthy as a result of having made a great game, the choice between spending time attempting to settle old scores vs making new ideas a reality should be obvious.

There past was never as perfect as we remember it. The one we remember and consider heritage is more like a synthesis of events by the brain into a story. Chasing after that story is a fight with ghosts and fake injustices, and while it may get the fans riled up for a brief period of time it ultimately proves hollow. Games, like any art, are more interesting when they move forward. Let 'done right' go. Do it wrong – just do it new.

Tadhg Kelly has worked in games, from tabletop to consoles, for nearly 20 years. Visit him at www.whatgamesare.com

In The Click Of It



CLINT HOCKING

The damage domain

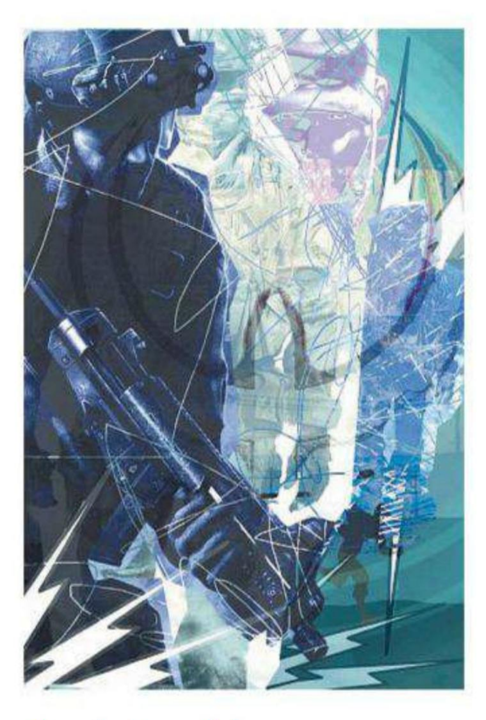
The domain of the FPS is damage. Whether you're ordering your squad to breach and clear a room in *Rainbow Six*, providing air support in *Modern Warfare*, or rocket jumping to a ledge overlooking an entryway in *Quake*, everything about your performance in an FPS ultimately comes down to optimising performance in this domain. Because of this, it makes sense to conclude that the most important part of an FPS is the guns, and that the core of FPS design resides in the guns. This isn't true. The stats of a game's guns *are* important, but they only inhabit a small area of the domain of damage.

If we consider the FPS more deeply, we can visualise its domain as a graph with two axes: one is the 'doing damage' axis, and the other is the 'damage avoidance' axis. At the top right of this graph, we have elements that have the largest impact on both the doing and the avoidance of damage. The main one is player dexterity: your reflex skills and hand-eye coordination. This skill differentiates between players who are otherwise equally matched, giving an advantage to those who can acquire, aim and shoot other players (thus doing damage) while dodging attempts by other players to do the same (avoiding it).

Obviously, designers do not design player skills – they design weapons. But weapons only inhabit the top-left corner of the graph, where they are most important in determining the doing of damage and have little to do with the avoidance of it. Conversely, at the bottom-right corner of the graph sit character health, shields and armour, which have little bearing on the doing of damage but are the designed elements most important in the avoidance (or absorption) of it.

So if player dexterity is not the core of FPS design because it is not designed, and weapon and armour design are not the core of FPS design because they reside along the edges of the domain, what makes up the 'creamy filling'? What are the designed elements that are relevant to both the doing and avoidance of damage, and which are also designed by designers and modulated by player skill?

There are two main categories: tactics and knowledge. Tactics describes elements related to how the player uses traps, stealth, navigation and



The design of the game spaces and the ways they facilitate players' reading of them are at least as important as gun stats

cover to minimise damage to himself while maximising damage to his opponents. Traps – such as claymores in *Modern Warfare* – are tools that allow the player to do damage without even being in the proximity of something that could do damage back. Stealth, as used by the Spy in *Team Fortress 2*, is a tactic that allows the player to avoid taking damage (by avoiding detection) in order to pick the most opportune moment or method to do it. Navigation in this sense is making deliberate choices about how to move through the local environment that minimise potential exposure, while cover use (which is a literal design element in *Gears Of War*, and an incidental one in all shooters) is the tactic of minimising current exposure.

Tactics are designed elements of the game that players get better at using. The skill in setting a claymore trap is not in the setting of it, but in the optimising of its placement, and the designed component is in the tuning of how visible it is against range, damage and movement speed. Designers define stealth rules for auditory and visual detection of players, then players learn those rules and, with practice, get better at skirting the edge of others' perception. Map layout, environment design and cover placement all constantly feed the player information about how to best optimise her exposure – the design of all of the game's spaces and the ways they facilitate players' reading of them are at least as important as the stats of the guns.

Breaking down the knowledge category is more difficult, since the elements tend to be very game-specific, but obvious examples include map, role and weapon knowledge. Similar to navigation, map knowledge is about optimising your routes through an entire level, not just the immediate, local area. It is a skill that develops over time, with exposure to a given map. Role knowledge is the understanding how different classes or player roles stack up against one another in a given situation. Similarly, weapon knowledge is the understanding of the game's primary damage-dealing tools and how they stack up against each other in any given situation.

Knowledge isn't designed directly, but it's something you can design to facilitate the steady development of. When we talk about designing depth into the weapon progression, for example, we aren't necessarily talking about more weapons or more complex weapons, but rather a greater requirement for exploration of the ways the weapons compare. This kind of knowledge development supported by design can be seen in the depth of class know-how exhibited by *TF2* players. There are only a small number of classes, which aren't too complex, but the subtlety and sophistication of their design and balancing creates a rich space for knowledge development, which is then applied to the doing or avoidance of damage in support of winning the game.

Clint Hocking is a creative director at LucasArts working on an unannounced project. He blogs at www.clicknothing.com

The Possibility Space



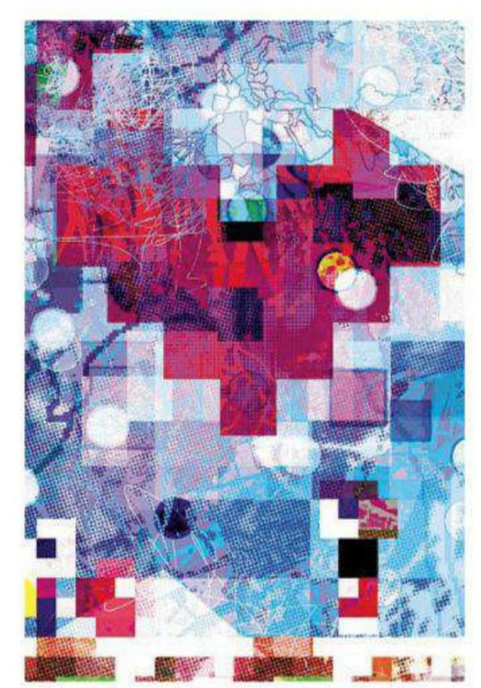
RANDY SMITH

Metaphors in movement

One episode of Into The Night With… sees **Chris Crawford** and Jason Rohrer talk game design while wandering San Francisco during GDC 2009. Crawford is a famously contrarian designer who started pursuing games as an art form while most industry veterans were undergoing puberty. After scowling at Q-Games' *PixelJunk Eden*, he debates its merits. "It's just a variation on the same old hand-eye coordination," he gripes. "The problem with artistic expression in games is that the games are fundamentally spatial." But he's intrigued by Rohrer's work. "You're taking the idea of spatial navigation, which has always been done too damn literally, and suddenly turning it into metaphor… What kind of metaphors can be created with spatial systems?"

Rohrer braved the limits of the spatial metaphor in 2007's celebrated art game *Passage* and 2008's lesser-known *Gravitation*. In the latter, large star objects can be pushed to destinations if you have adequate strength, which symbolises creative projects that can be accomplished with enough inspiration. Even more unfettered by literal tokens other than its title is Rod Humble's *The Marriage* (2006), whose drifting squares and circles represent, oh so abstractly, the balance of power inherent in romantic relationships. How do they do this? By colliding or not – in other words, by using a spatial metaphor not too distantly related to *Pong* or *Tetris*. Crawford is suggesting that even when we struggle to create genuine artistic expression, our medium is still a stone's throw away from its most primitive roots. Is *Journey* our most recent symbolic triumph, or little more than charcoal sketches on a gloomy cave wall?

Is this a legitimate criticism? Aren't plenty of masterpieces, from The Odyssey to Stand By Me, road trip stories in which physical movement is a metaphor for coming of age, or whatever? Of course, in those examples the visible actions don't exist alone – they are woven together with the thoughts and reactions of the characters. Books and movies that portray nothing but the immediately obvious, such as zombies scuba diving, are generally deemed shallow and vacant. If you were to try to craft a richer, more meaningful expression out of people picking up objects and placing them in different locations, you'd be forced to create some kind of metaphor just like *Gravitation* did. But there are no such books and movies, because dealing with thoughts, emotions, and communication come naturally to those media. Even reading the highly literal novel The Hunger Games by Suzanne Collins (originally a TV writer for Nickelodeon), we happily consume pages of nothing but the characters' dialogue and innermost thoughts. In those media, metaphor isn't a crutch, it's a luxury.



Is it really the case that the prevalence of tangible objects imposes boundaries on what games can do?

But, come to think of it, books and movies don't get all that deep with the physical. Reading The Three Musketeers provides a much more shallow perspective on sword combat than you'd have after playing *Bushido Blade*. When it comes to activity, non-interactive media are hindered by a variation of the 'tell, don't show' pitfall, because they can describe something, but can't let you do it yourself. What do they do instead? Sometimes they resort to metaphor, or they just stick to what they do best. Collins expends few sentences on bow combat, because even covering it in blow-by-blow detail would leave readers at arm's length. Instead, combat is woven together with thoughts and reactions, such that even a book like The Hunger Games is typically as much about how something feels as how it looks.

Aren't movies also purely visual? Is it really the case that the prevalence of tangible objects imposes boundaries on what games can do? The *Tycoon* games never leave one setting, so they aren't about motion; there are visible objects, but the game is about mental, not physical, activity. The same is true of Crawford's own strategy classic *Balance Of Power*, which deals with the tense politics of brinkmanship despite sporting familiar combat objects such as troops, maps and borders. To what extent do such literal tokens impose on a game's essence? Tiger Style's *Waking Mars* has caves to fly through; an astronaut avatar; alien lifeforms, seeds and eggs. The action gameplay is all resolved through physical collisions: seeds collide with soil, scavengers collide with food, predators collide with their prey. Is this another example, simply less abstract than *Marriage*, of physical objects colliding or not? No, *Waking Mars* is first and foremost about an intangible concept: it's an ecosystem game about how species propagate, and interact with each other. Despite being invisible, the mechanics do more to define the topic and tone of *Waking Mars* than physics.

Of course, there are few mechanics in *Waking Mars* regarding thoughts, feelings, and reactions. If anything is symbolised by Rohrer and Crawford's trek around the well-worn streets of San Francisco, winding up where they started, it's that although spatial metaphors are an instructive lens for viewing it, this criticism is the same 'games aren't good at human relationships' one that Crawford identified before I survived high school.

Randy Smith is the co-owner of Tiger Style, whose second game, Waking Mars *is available in the App Store now*

CREATE
INSIGHT

Word Play



JAMES LEACH

The ptifalls of pitching

At most gatherings of games development people, there's likely to be a writer holding forth annoyingly, wearing the regulation black T-shirt and, increasingly, in this shallow day and age, sporting a 'haircut'.

The writer will be telling everyone how he or she really should be brought in earlier on every project, and how nobody really understands how integral the writing is. This is despite the fact that everyone understands how integral the writing is. And despite the fact that teams usually know exactly the right moment to bring in a writer.

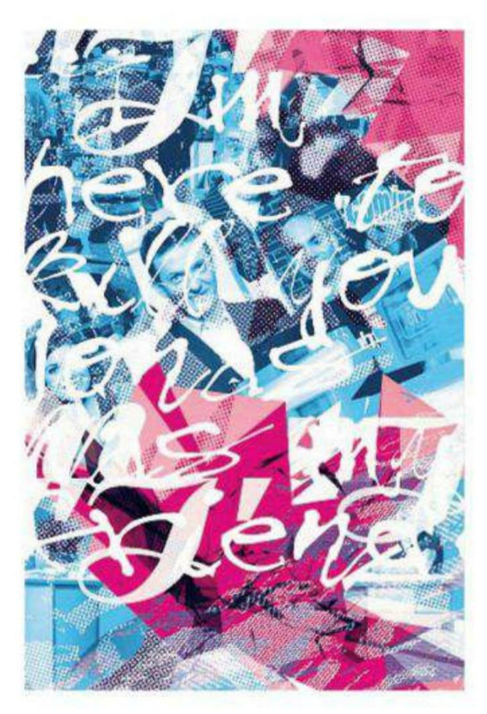
Any yet, early on in so many projects, our writer will be contacted and will stop watching Bargain Hunt for long enough to reply that, yes, although he's busy, he does have time to take on the work. Of course he'll supply suitable samples.

From here on, the process is potentially fraught. Let's say our writer is pitching for a fantasy racing game. He's done something similar before, so a chunk of the storyline and dialogue from his past effort is hauled out from the bottom of his hard drive and duly dispatched. A few days pass. The writer, now sure he hasn't got the job, mutes Doctors long enough to book a holiday online. Then the developers get back to him. They like some of the ideas in the sample, but they don't think the touches of humour work. And they're worried that the tone of voice is a bit young. Their game is, after all, gritty and hard-hitting.

The writer nods at this and looks for something else to send. Aha! A chunk of work for a tough US-based combat game. Perfect. Off it goes to the developer. Our writer settles down in front of Escape To The Country while the team cogitate. An answer is soon forthcoming. It's too military. There are no women in it. There's far too much battle dialogue and they think it's too skewed to an American audience.

At this point the writer pauses *Angry Birds* and composes an email suggesting the developers send him a non-disclosure agreement and write a brief relevant to the game they're considering him for. He'll pen a few hundred original words tailored for the project – no cost or obligation.

The development types love this and send back some character bios, a rough scenario and several emails of up to 13GB in size each containing high-resolution concept art in a complex format only viewable by artists and senior WETA and Pixar management.



The writer, keen to please as he surely is, has nevertheless realised that at no point has a contract been exchanged

Switching the TV right off, the writer bends to the task. He makes sure the piece he's creating has elements of everything mentioned. Then he rewrites, adding touches that, he hopes, bring it even more to life. He avoids a few clichés and throws in a surprise. He hints at a bit of backstory between two of the characters. He throws in some foreshadowing. He even provides some cool-sounding names for places and items. And he makes sure he hits the word count perfectly. Off it goes, and on goes Jeremy Kyle.

It isn't long before the good news is in. The team enjoyed reading the submission. They liked the names. Even the backstory was interesting. But they didn't like the cockney character. Change that, perhaps give the non-cockney a bigger scene, and let's see what we've got.

The writer does as he's asked and version two of the work soon plummets supersonically towards the developers. Ah, they say, that new scene is set in the rain. We're not doing rain in the game. And it's also too long. Oh, and the player has a sort of smartphone interface which he uses to track missions. Could you just…?

Back and forth. The writer, keen to please as he surely is, has nevertheless realised that at no point has a contract been exchanged, and that he's effectively starting to develop part of the game for free, with no guarantee that this is leading anywhere. He's also now worried to bring this up, because with each totally gratis iteration he's making the developers slightly happier.

Then one of three things happens. The developer realises what's been going on and gives our writer the job. Or it suspects all these iterations mean he's not nailing the tone and don't give him the job. Or it realises that the writer's efforts have exposed flaws in its story, characters or perhaps method of narrative delivery. It goes back to the drawing board and the writer doesn't get the job. At least not this year.

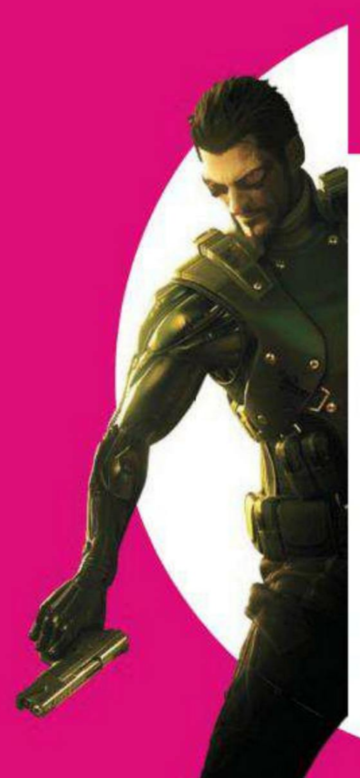
All this is clearly exaggerated, and it's all been condensed into one project, but each element has happened to me or to writers I know. And, I have to say, it's always the writer's fault. Being clear about what's provided and why, and forceful enough to point out when misunderstandings occur, is part of the job. It shouldn't affect the outcome. If the writer is the right for the role, he should get it. It's his job to make the process smooth, just as it's his job to free up space on Sky Plus for all the Lorraine he's going to miss.

Legend has it that a few years ago the television writer Russell T Davies told everyone he would no longer accept invitations to pitch for new work. He felt he'd paid his dues and proved his credentials, so people could either hire him or not. The trouble with us games writers is that we're not Russell T Davies.

James Leach is a BAFTA Award-winning freelance writer who works on games and for ad agencies, TV, radio and online


ASOBO
STUDIO





GET INTO GAMES

ADVICE ON STARTING A CAREER IN GAME DEVELOPMENT FROM INSIDE THE INDUSTRY



Public exposure to the videogame industry is at an all-time high in the UK. The government's recent reform of the National Curriculum will allow students to be taught computer science over the much-maligned ICT; powerful game creation tools like Unity and GameMaker are cheap to try and easy to use, while commercial releases now routinely include extensive level editors; and then there are projects like the $25 PC Raspberry Pi, and high-profile contests such as Epic Games' Make Something Unreal jam, which concluded at public consumer electronics event The Gadget Show Live.

And it's not just school education that's improving, as our survey of the current state of higher education demonstrates ❶. Universities and colleges across the world are working more closely than ever before with the industry to ensure the courses they teach remain relevant to developers.

We also explore the range of tools ❷ available to you, from low-level coding up to drag and drop menus, and look at the key platforms ❸ to consider when deciding which format to write your own games for.

Electronic Arts may be a one of the biggest videogame publishers in the world, but it's built upon many smaller companies, and we get to know three of them – in the shape of Criterion Games, DICE and EA Gothenburg ❹ – while we discover what they look for in new recruits.

Then we profile nine universities and colleges offering higher videogame education across Europe, from diplomas to doctorates, and find out how each one is working to stand out from the crowd. From p158 we look at the University Of Hull ❺, Southampton Solent ❻, National Film And Television School ❼, Bournemouth University ❽, Howest ❾, Somerset College ❿, University College London ⓫, Enjmin ⓬ and Teesside University ⓭. ■

AIM HIGHER

How is higher education meeting the needs of both the game industry and students?

MARCUS NILSSON
Studio head, EA Gothenburg
www.bit.ly/KJyuPv

ALAN MCDAIRMANT
Senior development director, Criterion
www.bit.ly/KJzeEv



KARL MAGNUS TROEDSSON
General manager, DICE
www.dice.se

The unrelenting pace of the videogame industry means it isn't an easy partner for the necessarily more ponderous world of higher education. It's a disconnect that any external observer could be forgiven for thinking was easily rectifiable, given that the cutting-edge games of the past couple of generations have taken just as long as a bachelor's degree, if not longer, to complete. That would be to oversimplify the relationship, however, particularly as today triple-A games are only a part of the full picture of game development, which now produces games for every demographic and on new platforms from Facebook to smartphones.

Higher education is fully aware of the discrepancy, however, and is investing heavily in becoming more reactive to the way the game industry is developing. A significant part of the solution is to work more closely with game development studios; colleges and universities are building long-lasting links with professional companies in order to keep abreast of the industry's needs.

It's telling that every institution we spoke to for the university profiles beginning on page 158 was keen to highlight their close linkswith the industry, and, as in the case of Reflections and Teesside, they're sometimes so close that it's hard to see precisely where one stops and the other begins. Courses are almost always put together with advice from local and international studios; it's in game developers' interests, after all, that higher education is producing talent that meets their priorities, so the relationships are very much mutally beneficial. On the same basis, many degrees offer students the option of a work placement sandwich year with their development partners. Of course, developers will often gain longterm staff from such placements, giving them first refusal on successive new generations of talent, along with some welcome additional help in creating their games. It's a turnaround that has seen higher education become far more important to developers when interviewing a prospective new member of the team than it used to be.

"People can still get together, make a game together and then get it published – that's easier today than it was previously. But when I look through CVs now, I look for people who have gone to university more than I did ten years ago," says **Marcus Nilsson**, formerly DICE's executive producer and now EA Gothenburg's senior producer.

But despite this, there's still room for improvement when it comes to industry relevancy, according to Criterion senior development director **Alan McDairmant**: "Game studios need to help these courses so they can stay relevant and get stronger and stronger, and we're very much invested in this considering the successes of our graduate hiring.

"But one clear issue we struggle with is the fact that many BSc Computing courses now teach Java instead of C++, which makes it harder to recruit for programmers – if you know C++ you can probably code in most languages."

The sheer number of courses available to those who want to learn a game industry discipline is bewildering, and when every one is selling itself as the way to get your dream job, making a decision about which one is right can be daunting. Whether a course has obtained Creative Skillset accreditation or not is one rough pointer as to its quality, but the developers we speak to are quick to point out that there are many great courses that don't have official approval, or are in the process of obtaining it.

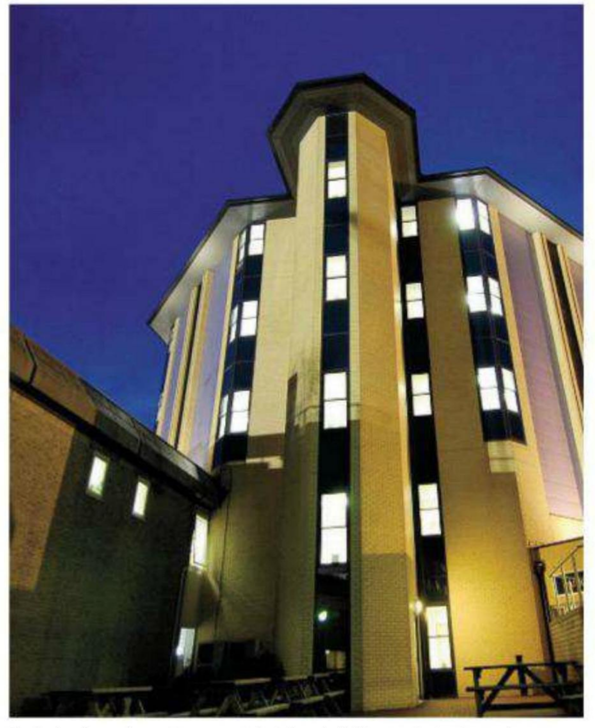
> "One issue we struggle with is the fact that many BSc Computing courses teach Java instead of C++, which makes it harder to recruit programmers"

"The game industry has moved away from three people drinking coke and coding to being mainstream, and I think that the world has finally caught up with game development. [Games are] probably on the edge of what we can do with technology. I don't really see a game as something you play on a TV or console; when I think about games I think about the web component, the iPhone component... It's all one, it's not about you sitting at home with your controller.

"What [developers] are doing is always cutting-edge, so you need really dedicated people, and I think educators have, in some aspects, understood that. [Committing to] education shows us the person *is* dedicated, that they wanted something and went for it."

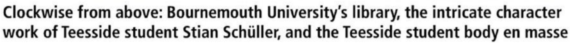


Today's students have to attain a broader range of skills to ensure longevity in a fast-changing industry








Clockwise from above: Bournemouth University's library, the intricate character work of Teesside student Stian Schüller, and the Teesside student body en masse

"The number of courses that are springing up purporting to provide a qualification in a games-related discipline does concern me," warns Reflections general manager **Giselle Stewart**. "I haven't looked at them all, so I don't want to knock any of them.

"But I know there are some very good courses out there at the universities that we're working with, and a lot of universities are making a huge amount of effort to build links with us and invite us to speak. They find ex-students and ask if it's OK if they come to talk, and some universities are actually putting course content in front of us and asking us to comment on it. Is it appropriate? Is it still relevant? Is the balance right?"

But the expectations of students, as much as those of developers, is an equally important factor in the equation. "The industry is changing quite rapidly; there are fewer jobs," says senior lecturer of games programming at Teesside **Anne-Gwenn Bosser**.

"Students come in and they want to develop triple-A titles. Now there are a lot of smaller companies doing social games and mobile, and so I think they have to be able to understand who they're working for, who they're making games for, and how that will have an impact on the skills they need to demonstrate.

"There's a common requirement for programming languages but, especially for beginners, the industry is looking for students who are able to use middleware. It's not just low-level programming."

New technologies and methodologies will continue to spring up at an alarming rate, especially as the industry fragments itself further across the big-budget/indie divide, and educators, no matter how plugged in, will remain reactionary for the most part. But it's clear that the best universities are preparing their students for the long haul by focusing on transferable skills, not just the headline technologies – and developers are aware of this too.

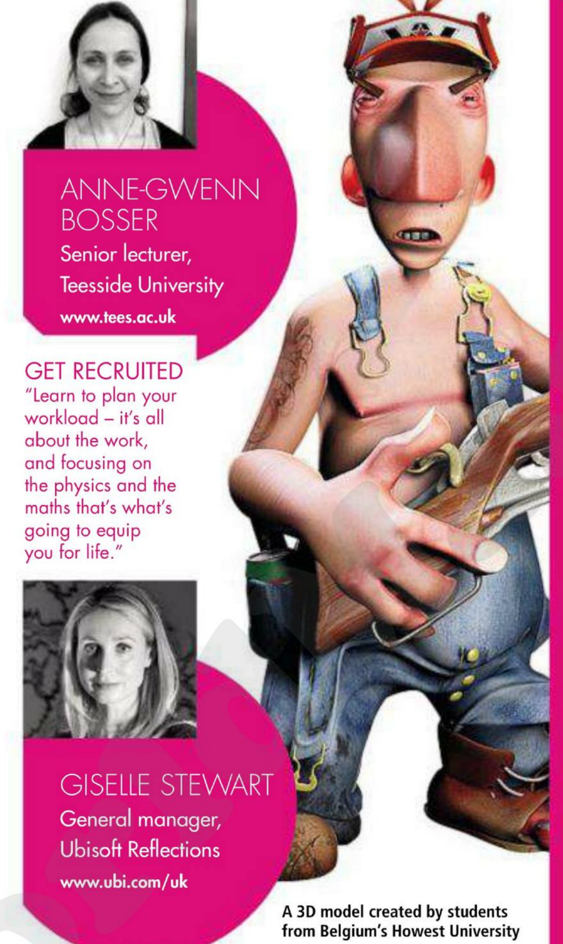
"We cannot expect university graduates to come out and just get instantly into our production line of working, because there will always be a period when people need to get up and running and get to know the internal tools that perhaps we cannot supply to the school because they are too secret," says vice president and general manager of DICE **Karl Magnus Troedsson**.

"We have to have people come in and actually work for us before they get to know every single little part of our pipeline. So there will always be a bit of a disconnection – the question is how much can we do to minimise that?" ■

ANNE-GWENN BOSSER
Senior lecturer, Teesside University
www.tees.ac.uk

GET RECRUITED
"Learn to plan your workload – it's all about the work, and focusing on the physics and the maths that's what's going to equip you for life."

GISELLE STEWART
General manager, Ubisoft Reflections
www.ubi.com/uk


A 3D model created by students from Belgium's Howest University

TOOLS OF THE TRADE

Detailing some of the technologies to learn that may give you the edge in an interview

MIKE GAMBLE
European territory manager, Epic Games
www.udk.com

DAVID HELGASON
CEO of Unity Technologies
www.unity3d.com



GREG CASTLE
Senior product marketing manger, Autodesk
www.bit.ly/MzwSKJ

Of all the tools and languages we discussed with members of the videogame industry while putting this feature together – including indie developers, course leaders and studio managers – nearly everyone mentioned C++. The object-oriented programming language is ubiquitous and continues to underpin the game industry, despite a broadening range of available platforms and development environments that compile code on your behalf and are lowering the barrier to entry.

Most studios will expect a strong knowledge of C++ from programmer candidates, backed up by a good grasp of maths, and will want to see examples of work you've created in your own time. But in an increasingly diverse industry, C++ is not the be all and end all of professional development, nor should it necessarily be your primary focus when looking for a route into the industry.

"Naturally, of course, we are looking for a talent that knows the platforms that are most important for us," says **Karl Magnus Troedsson**, vice president and general manager of DICE. "But if you have a really good candidate that perhaps knows another language or tool, as long as they have the right commitment, engagement and everything else and they are as good as everyone wants them to be [then] they shouldn't have a big problem learning another platform."

One of the easiest first steps into game creation, GameMaker 8.1 is an IDE (integrated development environment) application published by YoYo Games that allows users to build their projects through a drag-and-drop interface without needing to write any code. Available for PC and Mac, the software costs just $39.99 ($99 for the HTML5 version). With little prior coding experience, it was the ideal choice for *Gunpoint* creator **Tom Francis**.

"I heard that it was easy to use, but assumed it was just for making throwaway stuff that wouldn't be any good," he says of his decision to use YoYo Games' tool. "But then I heard that *Spelunky* – one of my favourite games ever – was made using it, and I figured that if you can make something that good in GameMaker then there was no reason not to be using it."

GameMaker includes its own language, called GML, which offers a simple way to get your hands dirty when you're ready to graduate from drag-and-drop menus. "There are two ways of doing everything," Francis adds. "As your project increases in complexity and you start to nail down exactly what you want to do with it, that's when you start to learn code, which means there is no big barrier to getting into it."

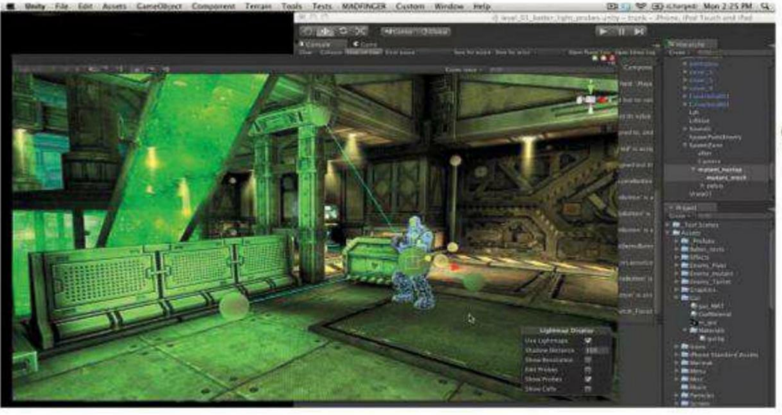
Similarly intent on easing the process of learning to code is Unity Technologies, whose freely available development platform, Unity, combines a powerful engine and editing tools, and enables easy publishing to the web, consoles, iOS, Android, PC, Mac, Flash and even Chrome's Native Client. It's a tool that's in wide use across the industry, and one that most higher education courses now include in their curriculum.

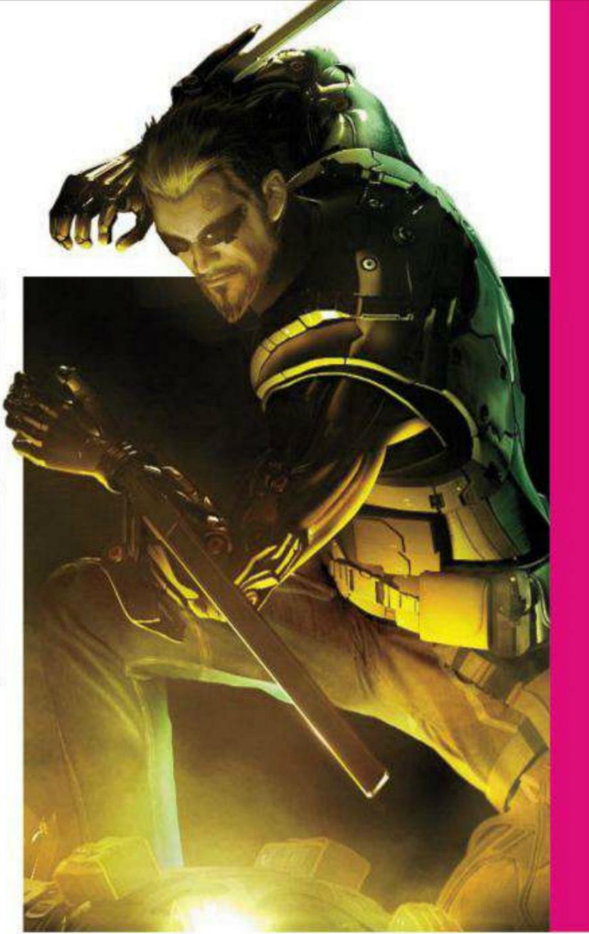
"Unity levels the playing field between small and large developers," says Unity Technologies CEO **David Helgason**. "It provides tools that would typically be cost-prohibitive to many studios, and helps both indie developers and veteran designers to radically reduce the time and effort of making games." It's worth noting, too, that Unity's Asset Store not only provides community-built plugins for the platform, but also offers a potential revenue stream to those who augment Unity, or simply provide models or graphics for other users to place in their games.

Epic Games' Unreal Engine, now on its third version, is one of the most widely used thirdparty engines on the market, powering *Gears Of War*, *Mass Effect* and *BioShock* to name just three examples. While rarely named as a requirement, prior experience of the engine will count



Ubisoft's artists used Autodesk's 3DS Max and MotionBuilder to build the strikingly detailed world of *Assassin's Creed: Brotherhood*, while animation middleware HumanIK delivers realistic movement


Originally called 3D Studio Max, 3DS Max is a powerful tool for creating graphic images, 3D models and even animations. It's used by the majority of development studios in the industry, and is available free to students



as a huge plus at interview time. While a fully licenced version of UE3 is an expensive proposition, the Unreal Development Kit (UDK) offers the exact same feature set at no cost, simply removing access to the C++ source code.

"UDK offers access to a professional game development engine for anyone wanting to start games development, or even anyone curious about how it is done," says Epic EU territory manager **Mike Gamble**. "We have 1.4 million users worldwide, so there's a fantastic community ready to help out and offer advice to budding game developers."

download their own free three-year licences for Autodesk's products from the company's education community – which boasts over four million members – at students.autodesk.com.

"Both our art creation software and Gameware products are widely adopted across the industry," says Autodesk Gameware senior product marketing manager **Greg Castle**, "so newcomers to the industry can expect knowledge of Autodesk products to be an asset when they are looking for their first job."

There are many more programs and technologies used in game

There's a host of freely available in-house engines – such as CryEngine – and modding tools with which to demonstrate your abilities

Most of your project can be written in UnrealScript, a proprietary object-oriented scripting language, while a commercial UDK licence costs $99 if you do decide to publish. Unless you earn over £50,000, Epic won't ask for royalties, either.

For budding artists, Autodesk provides a range of middleware, development tools and art creation software – most notably Maya and 3DS Max, two industry-leading products for modelling and animation. The full art creation range is rounded out by Softimage, MotionBuilder, Mudbox and SketchBook Designer.

Both Maya and 3DS Max came up in our discussions with developers and lecturers as often as C++, and both are mainstay elements in the majority of art-focused degrees. Students are able to

development, of course. And, as audience demographics shift, that list continues to grow. Web technologies such as Django, PHP and HTML5 are all becoming increasingly relevant, along with scripting engines such as Python, and it's also worth being familiar with established standards such as DirectX and OpenGL. And there's also a whole host of freely available engines – such as CryEngine – and modding tools with which to demonstrate your abilities.

Whichever technologies you choose, though, the consistent message that came back from those we spoke to is that the best thing you can do is get really good at using a small number of them. If you can demonstrate excellence with any tool, you're off to a flying start. ■

TOM FRANCIS
Indie developer
www.gunpointgame.com

GET RECRUITED
"Think of the simplest game you can that will work and has some kind of fun to it, and make that to completion. If it works, you'll learn so much doing that."

KARL MAGNUS TROEDSSON
Vice president, DICE
www.dice.se


Tom Francis made stealth shooter Gunpoint using the easy-to-use GameMaker IDE

PLATFORMING SKILLS

Our pick of the best platforms on which to kick off a career making games

ALAN MCDAIRMANT
Senior development director, Criterion
www.bit.ly/KJzeEv

GET RECRUITED
"Do your homework and prepare hard for an application or interview... Come in, be impressive and prepare to be challenged."



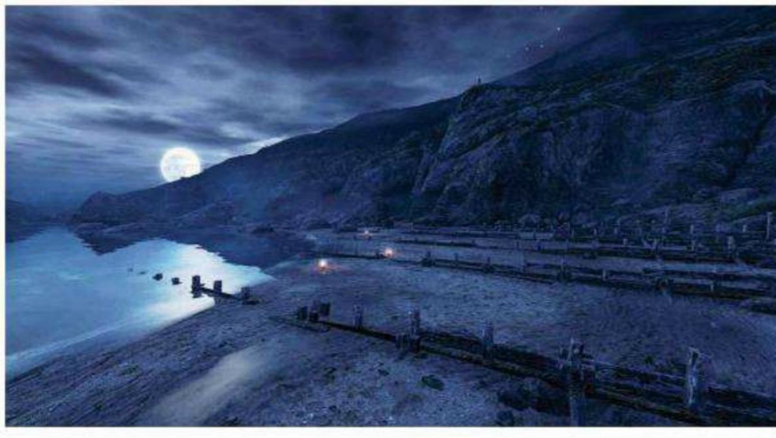
DAVID HELGASON
CEO of Unity Technologies
unity3d.com

Developers have never been faced with a broader range of platforms, nor a more difficult task when it comes to deciding on which to focus their efforts. The digital age has turned the traditional publishing model on its head, while development tools that were once the exclusive realm of experienced professionals now court amateurs with menu-driven interfaces and free licences.

For all that, though, perhaps the best place to start is still one of the oldest platforms: the humble Windows PC. Not only is it a fabulously powerful development platform in its own right, but it's also one that you'll probably use at some point during the process of making games for other devices.

Starting at the most basic level, there's a thriving web game scene on PC. Online gaming portals such as Kongregate allow creators to upload games made with Flash, Java, Javascript and, more recently, HTML5 and Unity, often supplying their an API that can be plugged in to allow for online highscore tables and even achievements systems. Flash Player games lend themselves well to simple, streamlined concepts – and rapid prototyping – and have provided the springboard or inspiration for iOS hits such as *Canabalt* and *Angry Birds*.

But as home systems have become more powerful, so too has the technology behind browser-based games. Adobe launched Stage3D for Flash last year, a new set of APIs that allows for high fidelity 3D graphics in-browser. Unity, meanwhile, enables you to export your game from its development environment to Stage3D, or run it in-browser using the company's own Unity Player plugin. And then there's Google's Native Client (NaCl) for its Chrome browser (see our lead news story on p12 for more), which allows developers to tap directly into a computer's native processing power to run web applications. Versions of *Mini Ninjas* and *Bastion* ported to NaCl have already proven the concept.



Dear Esther **was originally created as a mod for *Half-Life 2*, but was subsequently polished up and released as a standalone game. It's testament to the diverse routes available to developers when working on the PC**

Of course, if you're ready to graduate from Javascript and Flash, there's a host of even more powerful options available, from directly coding with object-oriented language C++ to the array of bespoke environments and scripting languages built around it, such as Unreal Development Kit.

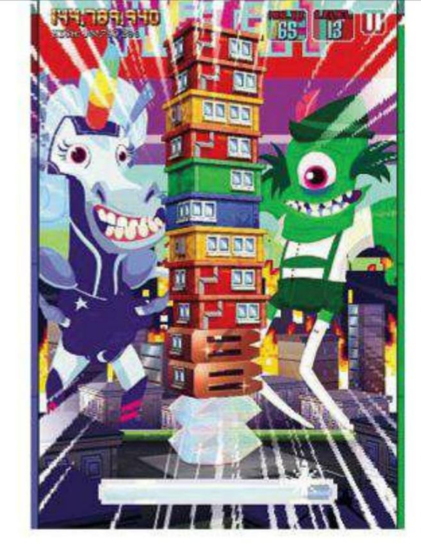
And when it comes to releasing your game, the open nature of the PC makes it easy to do so. Digital distribution services such as Valve's Steam provide a publisher-free route to millions of players, Facebook provides a social network on which to frame your game, while individuals such as *Minecraft* creator Markus 'Notch' Persson have demonstrated the efficacy of the canny use of Twitter and selling directly to your audience.

Apple's Mac offers a smaller gaming userbase, but shouldn't be forgotten – it has gained momentum in the sector in recent years via an ever-growing list of big-name games, with *Rage*, *Limbo* and *Deus Ex: Human Revolution* all making the jump to the platform. And with the launch of the Mac App Store last year, the company also began applying some of the lessons learned from its gaming success on iPhone.

Which brings us to iOS, Android and Window Phone 7 – Apple, Google and Microsoft's mobile platforms respectively. Mobile development's low barrier to entry and relatively speedy implementation, combined with the advent of handsets capable of delivering far more than an awkwardly controlled *Snake* knock-off (although you'll still find those) has made it equally as popular with first-time developers as it has with industry vets looking to return to the 'good old days' of bedroom coding.

"Development in iOS is really valuable," explains Criterion senior development director **Alan McDairmant** of the platform's ability to help new (and old) hands learn. "You can get through the full development cycle of building a game from idea to release and support it pretty quickly and cheaply."

By far the biggest markets at the time of writing are those of Android and iOS, but while a larger market can mean more



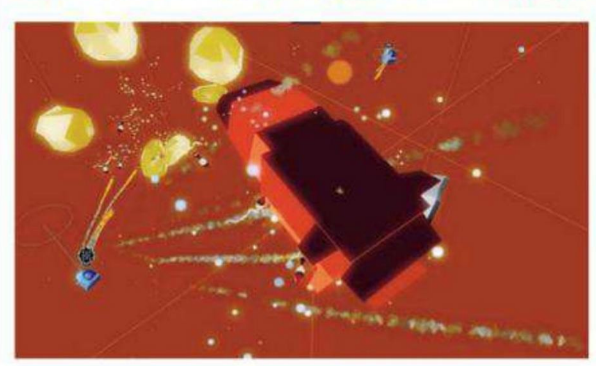


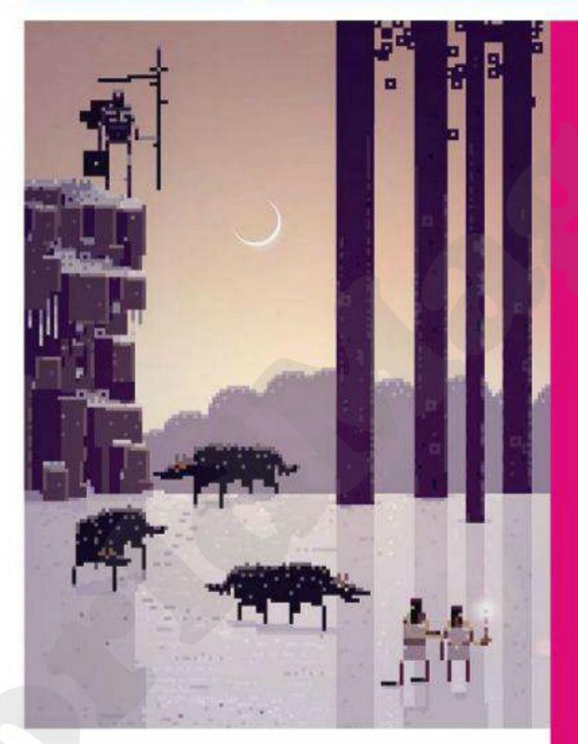
sales, it can also create its own problems with discoverability, as the App Store and Android Marketplace become ever more cluttered with competing apps. Android's fragmented hardware specifications can also trip up unwary developers.

All three major mobile platforms' official SDKs (software development kits) and guidance are freely available to download, so you can get up and running quickly, but in order to publish your games you'll need to register. In the case of Google, this means a one-off payment of $25, designed to encourage more high-quality software, whereas to become an Apple or Microsoft developer requires an annual fee of $99 – and you'll also be subject to an approval process. You're not necessarily limited to the official SDKs, though, as development environments such as Unity can export your game to multiple platforms, including Android and iOS.

Microsoft's $99 fee also signs you up to its App Hub which, along with allowing you to release unlimited paid-for apps and 100 free apps a year on Windows Phone 7, also gives you the option to submit up to ten games to Xbox Live Indie Games. While Microsoft has attracted a lot of criticism from the indie community for a number of Xbox 360 dashboard redesigns that have seen the channel buried ever deeper in menus, the most recent update saw it return to the top level of the Marketplace in the US.

Clockwise from top left: *Monsters Ate My Condo* for iOS; *Minecraft* is now available on a range of platfoms; *Flotilla* for XBLIG; *Sword & Sworcery* for iOS





"What is really important is to build reusable skills, build a broad understanding of the industry, and simply to get a lot of experience"

With any luck, that change will be made in other territories too, but regardless of placement, the XBLIG remains a viable one for developers – it has, after all, played host to titles such as Blendo Games' *Flotilla* and My Owl Software's *Apple Jack* – just don't expect to make millions overnight.

Here, we've covered a selection of the available platforms, focusing on the ones that are most suitable for your first forays into game creation. Together with the tools detailed on p152, it's a lot to take in, but it's important to remember that platforms come and go. Completing a project on any platform, using any language or tool, will provide you with lessons that you can take to the next one.

"Game developers are some of the coolest people I know," says Unity CEO **David Helgason**. "They are passionate and smart, and therefore the skills they acquire are really deep when it comes to the craft of building great games. But the industry is tough, competitive, and changes very fast. Today's hot platform is tomorrow's quagmire of broken dreams and over-competition.

"What is really important is to build reusable skills, build a broad understanding of the industry, and simply to get a lot of experience building actual games – these things are absolutely necessary to get anywhere." ■



In association with EA
www.jobs.ea.com

DICE, CRITERION GAMES AND EA GOTHENBURG

The heads of three leading EA studios offer advice on getting hired in today's competitive market

KARL MAGNUS TROEDSSON
General manager, DICE
www.dice.se

GET RECRUITED
"There are good days and bad days, and your commitment needs to be there every single day you walk into the office."



MARCUS NILSSON
Studio head, EA Gothenburg
www.bit.ly/KJyuPv

ALAN MCDAIRMANT
Senior development director, Criterion
www.bit.ly/KJzeEv

Applying to work for Electronic Arts, a huge multinational developer and publisher, may seem like a daunting task for those starting out in their career. But while the corporate façade might be one of dizzying scale, the studios that compose this well-oiled machine are approachable, have distinctive personalities, and in many cases are proud of their 'small-studio' mentality. Three such studios are Stockholm-based *Battlefield* developer DICE; the recently created EA Gothenburg, situated roughly 450km south-west of DICE; and Guildford's Criterion.

As if to underline that approachability, in April Criterion, the studio behind the *Burnout* series and *Need For Speed: Hot Pursuit*, held its first open day for school leavers and first-year university students. It prides itself on its graduate intake and also had a competition to win one of five summer internships. The initiative was so successful that the developer made space for six interns instead.

"We see everyone as a game creator first, then an artist, programmer or whatever," explains Criterion's senior development director **Alan McDairmant**. "That means we expect everyone to think about how their work and ideas contribute to making a great gameplay experience, rather than thinking like they are writing code or modelling cars that somehow come together.

"Criterion has built up a great relationship with the University of Hull, having hired graduates from there over the past few years. We also have a good relationship with Bournemouth, with many of our senior artists being alumni."

Further afield, EA Gothenburg is currently gearing up to reveal its first project. The studio was set up by EA to focus on creating the next generation of games using the Frostbite 2 engine, the powerhouse behind *Battlefield 3*'s sensory assault. Headed up by former DICE executive producer **Marcus Nilsson**, the studio is in the enviable position of being a startup with EA's full backing.

"We are recruiting internationally to get the right talent," explains Nilsson. "We have a pretty interesting and attractive offering for people. It's not coming into a 300-man studio, being placed at a desk and told: 'Do this.' Coming into EA Gothenburg right now, you're actually part of shaping the studio. Everyone says hello in the morning and goodbye when you leave, so it's really the mentality of a small team, even though it's growing."

Nilsson's determined to keep that ethos, even as the studio rapidly scales up to tackle new projects. As such, he's attempting to create a flat organisation without hierarchies – at least in terms of creative input. Everyone is encouraged, no matter what their role, to speak their mind about the games being produced there, and suggest improvements.

"I want people to show a passion for excellence," Nilsson continues. "I don't want people to treat it solely as a nine-to-five job, and I'm not talking about working overtime here, but how you're thinking about your job. I want people to be part of creating world-class entertainment, and to really care about what they do."

Fellow Swedish developer DICE, the studio that created the Frostbite engine, is currently aiming to increase its size by up to 25 per cent. At the cutting edge of videogame development, the studio will always require experienced candidates, but that doesn't mean it doesn't keep a sharp eye on potential talent.

"We've talked quite a bit about this," says vice president and general manager of DICE **Karl Magnus Troedsson**. "We can't just look for one type of person. We need to go with experienced people as well as people who are directly out of school, for example."

To this end, the company provides work projects for undergraduates to complete in their own time, simultaneously testing their abilities and teaching useful skills. Designers get to design and build small games, while artists focus on creating great art. But while technical ability is important, Troedsson is clear that it's not all you need.

"It's going to be less about the actual skills and more about a mindset," he explains. "I started out in the industry as a level designer and an artist, and now I'm the general manager of DICE – that comes from me being passionate about, and playing, games ever since I was a kid." ■



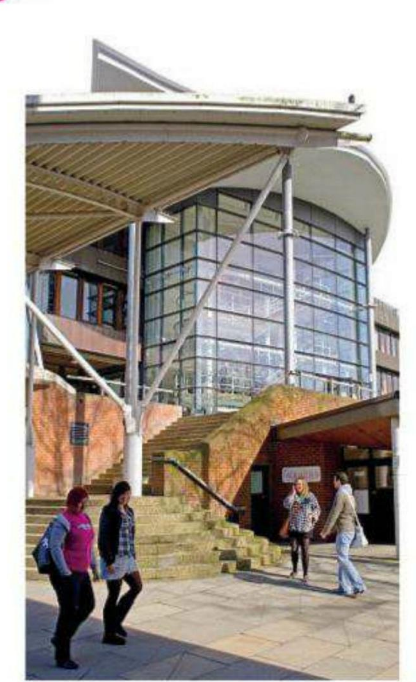
DICE rendering architect Johan Andersson in the developer's waterfront Stockholm office

UNIVERSITY OF HULL

An institution that boasts its own in-house development studio, and was instrumental in the creation of LCD technology

WARREN VIANT
Head of computer sciences
www.hull.ac.uk/dcs

GET RECRUITED
"If you're looking to become a game programmer, pick a course focused on game programming, program extensively in your spare time and become the best programmer you can."





The University of Hull has a deep connection with early gaming technology, given emeritus professor George Gray's discovery of one of the essential components for LCD displays during the '60s. So we have Hull to thank, in part, for Nintendo's Game & Watch handhelds. Nowadays, Hull continues to directly contribute to the industry not just through its graduates, but also via an in-house development company called SEED, where students can get a taste of what studio work is like. Head of computer sciences **Warren Viant** talks us through the institution's close links with the industry and its long history of videogame design teaching.

The University Of Hull offers a number of game-focused courses. What are the broader aims of your syllabus?
With our BSc degree, we aim to produce students with a well-rounded CS education, with a focus on game programming, whereas MSc and MEng graduates can expect to gain knowledge and understanding of game engine design and development. All Hull students are expected to make an immediate and effective contribution to their employer. One of the biggest challenges facing students today is employment prospects once leaving University, which is why we put so much emphasis on students that can actually deliver. This is evidenced by the high level of success in software development competitions such as Microsoft's Imagine cup: Hull is the most successful university in the UK.

What do you have to offer?
We offer a three-year BSc and four-year MEng in computer science with game development that gives students the knowledge and understanding they need to enter the games industry as a programmer. But while the skills gained are directly relevant to the videogame industry, they are also applicable to a range of careers that require knowledge of graphics, simulation and visualisation. We also offer one-year postgrad master's degrees in games programming, computer graphics programming and computer science.

Could you tell us a little about SEED?
SEED develops a range of software products, from emergency service command and control systems to iPhone games. One distinctive feature of the MEng and MSc degrees is the opportunity for students to gain experience in the skills and practices of commercial software development through a placement within the company.

Do you work with any external studios?
We have a long and successful track record of collaboration with triple-A studios to ensure that the syllabus matches their requirements, These include EA, Microsoft Rare, Codemasters, Eutechnyx, Sony and Frontier, to name but a few.

> "One of the biggest challenges facing students is employment prospects, which is why we put so much emphasis on students that can deliver"

SEED develops its own iOS games, but how else is the growing importance of mobile development reflected in Hull's current courses?
At the master's level, we focus on the complexities of developing game engines for PC and consoles. Mobile technology, although it has its own constraints, is essentially a simpler version of the heavyweight consoles and PC [tech]. But modules on the undergraduate degree focus on development on mobile platforms.

What can the city of Hull offer students?
It's one of England's ten largest cities, feels very cosmopolitan, has a deserved reputation for friendliness and an extremely reasonable cost of living. There's a vibrant social and live music scene, too! ■



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SOUTHAMPTON SOLENT UNIVERSITY

A south-coast university that teaches its students to be flexible to succeed in a constantly changing industry

ADAM BARTON
Course leader, video games for artists
www.solent.ac.uk

GET RECRUITED
"Determination is your key to success in this industry. If you are determined, you can achieve…"

Southampton Solent University offers two major videogame degrees, a BSc (Hons) in computer games development with a focus on software engineering and a BA (Hons) in computer and video games for artists. A close relationship between them means that students benefit from working with, and learning from, other disciplines throughout their degrees. Here, computer games development course leader **Chris Bryson** and computer and video games course leader **Adam Barton** detail the university's cutting edge facilities, internal Video Games Academy, and the challenges facing students today.

Could you outline the two courses?
Chris Bryson The computer games development course is designed to prepare students for careers as software engineers, with a particular emphasis on working in the game industry. A design strand gives the technically minded an understanding of the work done by people they will end up working alongside. It also gives indie developers a chance to take their basic design ideas further with coders available to help at the implementation stage, and opens up the possibility of a role as a technical artist.
Adam Barton The computer and video games course is designed for artists who want to work in games. Students will learn art aesthetics, professional techniques and graphics technology, but most importantly they will develop independent skills.


"Games technology is constantly changing. We enable our students to solve problems, think creatively and be self confident"



What makes Southampton Solent stand out from other institutions?
AB Southampton Solent University aims to prepare students for a lifetime of learning. I'm always learning, developing and enhancing, games technology is constantly changing. It's what makes the industry so exciting. What we enable our students to do is solve problems, to think creatively and be self confident.
CB The team has experience of working at Codemasters, ATI and Nvidia, plus we have a Usability Suite where the eye-movements and reactions of players can be recorded and analysed. There's also access to mo-cap equipment – Solent is a professional facility that's frequently used by commercial software developers. Plus, our Video Games Academy allows students from the two courses to make games together, giving them opportunities to develop their portfolios, work in multi-disciplinary teams and gain an understanding of other roles in the industry.

How do you keep the course relevant?
CB The range and quality of mobile applications has blossomed over the last two to three years. The course responded by modifying the two existing mobile development units to make them more relevant to the latest platforms, and further changes are planned. We're also always on the lookout for ways to increase the number of external companies involved with course development and assessment. The programme is always under review and the content of units changes to take account of trends in the industry. Our current plans include the introduction of a separate strand for those who plan to become indies, and a new sub-degree, probably an HND, in games testing.

What are the challenges for students hoping to enter the game industry?
CB They are competing in a very challenging and demanding job area, so they must be prepared to work extremely hard for all three years, including holidays, in order to have any chance of getting their first critical position in the industry. We try to leave graduates in a position where they can be confident that if they apply for non-games posts they have also covered most of the non-programming areas of a software engineering degree.
AB They face plenty of challenges, but they are young, ambitious and talented and they will not only overcome these challenges, but thrive! ■



Interested in a career in the computer games industry?
We offer a range of courses to help you on your way including:
BA (Hons) Computer and Video Games
This Skillset accredited course will enable you to become well versed in the creative and critical aspects of game art, game play and game narrative. Enabling you to go onto a career in areas such as: Animation, Character design and Technical artistry.
BSc (Hons) Computer Games Development
This course adopts a software engineering approach to games development and enables you to go onto a career working in areas such as: Games development, Web Development and Tools Programming.
Want to know more?
Click your way to www.solent.ac.uk/courses
Call +44 (0)23 8031 9039
Email ask@solent.ac.uk
Southampton SOLENT University
skillset
The Sector Skills Council for Creative Media
Image by Chris Molyneaux and Derek Lettis



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CREATE
GET INTO GAMES
UNIVERSITY PROFILE

NATIONAL FILM AND TELEVISION SCHOOL

A new game development course with a creative focus and a film school sensibility

JON WEINBREN
Head of games design and development
www.nftsfilm-tv.ac.uk

GET RECRUITED
"Don't just aim for more of the same; aspire for something new and different, something that will engage with audiences and players way beyond the game industry's current reach."

The National Film and Television School is an internationally renowned film school that, from this year, began offering a two-year MA in games design and development. Situated in Beaconsfield, 25 minutes from London, the NFTS is increasingly positioning itself as a supporter and driver of the indie dev scene. It's an interesting alignment that is reflected in the course's small intake – just eight students per year – and a close relationship with the Unity game engine. Head of games design and development **Jon Weinbren** outlines the unique opportunities that a film school can offer its game design students.

How has the first year of the course been going?
It's gone remarkably well so far. We're three months in and already students have had advanced instruction in Maya and Unity from professionals. The first project – a playable environment building exercise we call 'Hello World' – exceeded all expectations. It was recently presented to NFTS faculty and industry tutors in the school cinema to immensely positive praise and feedback all round. Input from sound and production design students helped to ensure 'cinematic' production values, and the idea for the world itself was considered sophisticated and deeply engaging. It was a proud moment.

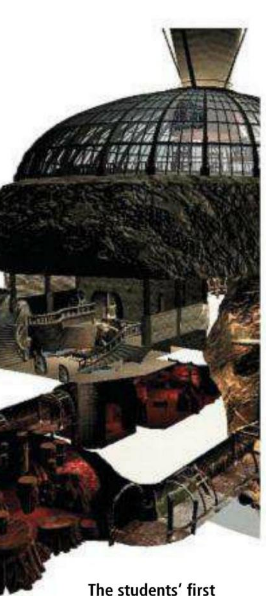
There's no doubt that the students have bonded as a group, and developed creative partnerships with other disciplines within the school which augurs particularly well for the future. Having set the bar so high, there's a sense of anticipation. What are we going to come up with next?

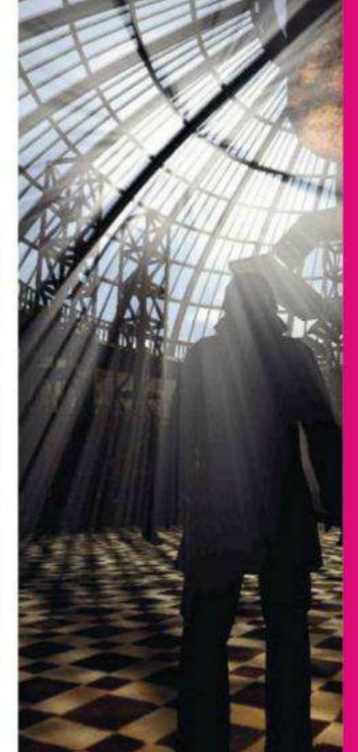
"Students are equipped with the visual fluency and technical proficiency to enable them to take their games ideas to a higher level"

How does NFTS's TV and film experience affect the course?
At its heart it is an uncompromisingly creative course, yet students also develop a thorough grounding in the technical aspects of game development. Students become both specialists and generalists, embracing disciplines from 2D and 3D art and animation, through design, code, production and strategic development. It's a hotbed of creativity and new talent, with regular visits from some of the most well-respected practitioners in the film, television and game worlds. It is one of the only schools where students engage as a matter of course with specialists from other disciplines on a project-by-project basis. The game course is the newest addition to the mix, and the depth of opportunity for the different areas and specialisms within film, television, visual effects, animation and games to learn from each other on a both a practical and intellectual level is completely unparalleled. We are one of the few courses to have regular life drawing classes, for example!

What areas can students expect the course to cover?
Students are coached in theory, design, strategy and visual invention through lectures and workshops with a range of industry professionals and practitioners from other fields. Right now, the students are coming to the end of an intensive three-week 'code camp,' where most of them are taken from zero to C++ in less than a month. We're not training them to be programmers per se, nor are we expecting them to become specialist fine artists; but we are ensuring that they are equipped with the visual fluency and technical proficiency to enable them to take their games ideas to a higher level.

To what extent does NFTS engage with the wider videogame industry?
We work with many industry stalwarts, many of whom are involved in the course advisory group, others providing visiting tutors and masterclasses, so professional input and feedback is never far away. Many of our partners go further, for example BBC Worldwide's global games division has provided us with exclusive student funding and internships, with other organisations to follow. ■





The students' first project, titled 'Hello World', was to produce a complete playable world



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BOURNEMOUTH UNIVERSITY

A seaside university in a laid back town with a eye squarely set on teaching students about the cutting edge of gaming

CHRISTOS GATZIDIS
Senior lecturer
www.bournemouth.ac.uk

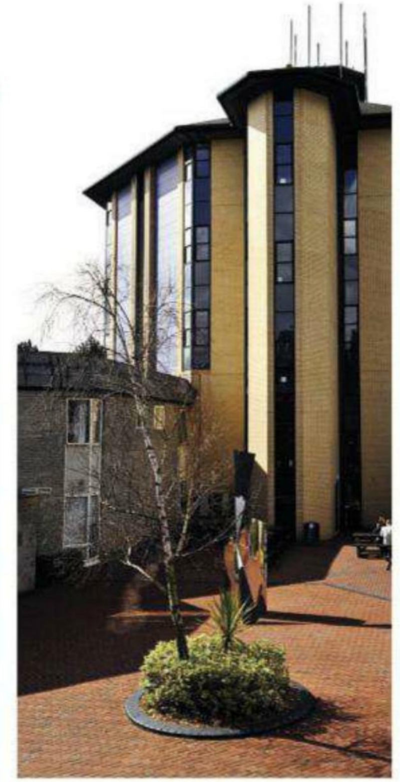
GET RECRUITED
"If you want to make it in this industry, you need to live and breathe your work, whether that is character model creation or writing shaders in DirectX."

Spread across the neighbouring UK south coast towns of Bournemouth and Poole, Bournemouth University offers a BSc in games technology and an MSc in computer games technology. In addition to these two courses, The School Of Design Engineering & Computing also offers a BSc in music and audio technology, which covers C++ programming, making it ideal for musicians with a specific interest in the game industry. We spoke to senior lecturer in creative technology **Dr Christos Gatzidis** about the institution's long history with the creative arts, and the increasingly global game industry.

What makes Bournemouth University stand apart from other institutions?
Bournemouth University has a long-standing tradition of offering courses related to the creative industries, whether that's computer graphics, animation or interactive media. It's a tradition that goes back at least two decades, and it's something our students can benefit from immensely. Our courses have an excellent – and global – reputation, and a very high employment record for finishing graduates.

We also aim to address the current requirements of the domestic and global game development industry, plus the professional aspirations of our current student cohort, and these two objectives have a huge overlap. Ultimately, nothing would make us happier than to be able to claim in the near future that the next John Carmack studied on one of our courses!

"Our courses have an excellent – and global – reputation, and a very high employment record for graduates"



Bournemouth University's campus is spread over the neighbouring towns of Bournemouth and Poole

What can Bournemouth offer students?
Bournemouth is on the south coast, so you get all the benefits of living in a seaside university town with beautiful surroundings. The town has a vibrant and multicultural feel, thanks partly to the student community itself, and is always great for a night out. Bournemouth's much more laid back than London, but the capital's still only less than two hours away by train.

What are the unique challenges facing students today?
It's a very competitive market out there, and you need to be very astute, focused and professional in order to land a job. Applicants really need to not just engage with the course they choose, but also go beyond that and spend a good chunk of their spare time building a strong portfolio. The same is true whether you want to be an artist, programmer or anything else. Attending boot camp events, entering online competitions and generally building your skills and working towards something approximating professional quality is what will really set you apart.

The industry today is very different to the one many current developers started in – how does your course reflect this?
One example: after many false starts, mobile gaming has become a very viable and extremely lucrative part of the industry, and that's affected our course structure and content. On our undergraduate course, for example, we cover mobile games and embedded intelligence, multimodal interactions in the second year, and then modelling and game design in the final year, in which we assess, for all these subjects, students on coursework focused on mobile game creation mini-projects. Students use development platforms such as Microsoft's XNA for Windows Phone devices, and Unity and Unreal for iOS.

What other tools do you cover?
We aim to expose students to all parts of the development pipeline, both at undergraduate and postgraduate level. Programmers should have an expert knowledge of C++, and we cover it in a number of units across all years, while artists need to be proficient with 3ds Max or Maya – along with Photoshop – which, again, we cover from the first year onwards on our undergraduate course. We also cover additional tools such as Mudbox and ZBrush. ■



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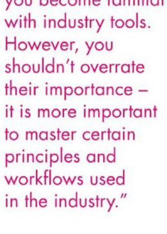
HOWEST COLLEGE UNIVERSITY

A Belgian college spread across two cities that aims to provide a studio experience from the beginning

RIK LEENKNEGT
Academic director digital arts and entertainment
www.bit.ly/M9Smv9



Howest, University College West Flanders is split between four campuses and two cities: Bruges and Kortrijk, and its bachelor's degree in digital arts and entertainment was compiled with the input of major players in the international game industry, according to department international officer **Rik Leenknegt**. The college has been voted most entrepreneurial institution of higher education in Flanders by both employers and the government five times. We sat down with Defour to discuss gaining industry experience while you study, and why the course won't compromise if students don't put in the hours.



GET RECRUITED
"It's important that you become familiar with industry tools. However, you shouldn't overrate their importance – it is more important to master certain principles and workflows used in the industry."

What's the difference between courses?
In 3D arts, we train a technical artist who delivers conceptual graphical work. Students learn how to use and create reference material, draw anatomically correct figures, model and animate the human body, design a game or animation film trailer and design graphical shaders.

In game development, our artists are trained in realtime 3D applications, asset implementation and management – both with a personally implemented engine and existing game engines – and modelling the concepts or assets created by artists.

What industry experience will students gain during their three years?
It goes without saying that an exploration of the world's leading companies in the field of digital arts and entertainment is part of the curriculum – study trips in Europe and the US are a must. And in the sixth semester, an internship at an internationally renowned company helps students become the creative genius they always wanted to be.

We expect our students to attend classes for 25 hours per week, but also work at home. This results in an average workload of 50 hours per week, containing periods with heaps of work and plenty of deadlines, alternated with calmer periods. Through this workload, we try to simulate reality as well as we can.

It's a real challenge then?
Our students are set increasingly higher requirements combining artistic, 3D and technical skills. In combination with the many deadlines, this results in a rather high drop-out rate. Only the best survive!

So do you maintain a close relationship with developers?
Howest enjoys an excellent reputation with employers. To anticipate the needs and demands of the field, we developed a number of unique study programmes, including digital arts and entertainment. Furthermore, we've built a solid national and international network. For instance, we are premium development partners of Intel, AMD and HP, and we organise Adobe and Microsoft user groups. We co-operate with institutions in the US, Canada, Mexico, every European country, Russia, India and China. But we are most proud of the fact that Howest, and more specifically the digital arts and entertainment course, is the only school or study programme worldwide that for the past four years reached the Game Design Finals of the Microsoft Imagine Cup!

"We are the only school or study programme that for the past four years reached the Game Design Finals of the Microsoft Imagine Cup"

Should international students be wary of the any potential language barriers?
Both Bruges and Kortrijk have a long tradition of making people feel at home, and the course is taught in English, so a language barrier shouldn't be a problem! International students will appreciate the small-scale advantages of both cities, spiced up with the knowledge that larger cities are within easy reach. Known as the Venice of the north, Bruges is one of the most beautiful cities in Europe, while Kortrijk is the city of innovation, creation and design. Plus the capital of Belgium is Brussels, a capital it shares with the EU. Belgium's ten million inhabitants live right at the crossroads of Europe. Paris, London, Cologne and Amsterdam are all only a two hour train journey away. ■

A character model by Howest student Tibo Vanschuyenbergh


howest
University College West Flanders
Member of the Ghent University Association


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SOMERSET COLLEGE

Multimillion pound investment in this long-established institution has resulted in cutting-edge facilities

SAM BATTEN
Curriculum area manager
www.somerset.ac.uk

GET RECRUITED
"Get to know the industry and the job roles that you aspire to as best you can. Be proactive in reaching your goals and be prepared to work hard."

Somerset might not spring to mind when planning your first steps into the fast-moving videogame industry, but Somerset College is doing its best to change that. Founded as The School Of Art And Science in 1856, it has benefited from a multimillion pound investment that's resulted in cutting-edge facilities. Based in Taunton, the college's two-year FdSc in computer games technology sets students up for either their first role in the industry, or a final year (subject to validation) at Somerset College to earn a BSc. Curriculum area manager **Sam Batten** explains why it's the right choice for aspiring developers.

How is the course structured?
Undergraduates study a range of computer game technology subjects such as games programming, game mathematics, graphics and animation, game platforms and technologies, game design and development and professional practice and the workplace. The second year includes sound for games, games production, game AI, 3D environments and visualisation, advanced game programming, ethics and professional practice, and the option to study character modelling or mobile gaming.

How does your course prepare students for working in the videogame industry?
As well as computer games technology the programme enables the development of personal and communication skills, team working, understanding of technology and programming principles, production management techniques and presentation and pitching skills – all of which are much sought after in the game industry.

Somerset College is a Peter Jones Enterprise Academy – what benefits does that status offer to students?
We encourage entrepreneurial skills and business awareness. Our onsite business start-up resources mean we can help our students if they wish to set up their own SME. Also, our links with businesses and agencies have led to a growing relationship with our undergraduates, and students are engaged in work placements, freelance work and live project work which all provide excellent opportunities to develop their skills, business awareness and an admirable portfolio of work.

How has the college's relationship with industry partners influenced the course?
We increasingly receive requests from clients asking if our students can develop games suitable for mobile platforms, and this has provided them with an excellent opportunity to hone their skills and further develop their confidence. Undergraduates study a year-long module in mobile gaming, and this provides an excellent grounding in the technology.

Somerset College is also a member of TIGA and this, alongside our links with members of the game industry, helps us in the continual research and development of our courses and the training of our staff to ensure that we are delivering an up to date, relevant and high quality HE programme that equips students with the skills and expertise they need.

> "Students are engaged in work placements, freelance work and project work which are excellent opportunities to develop their skills"

Why should students choose Taunton?
The creative media industries in England are characterised by a highly qualified workforce – 60 per cent of its members have a degree-level qualification. There are over 60 companies in the south-west of England with a turnover of more than £1m, spanning animation, videogames, app development and design work, and over 1,000 game development SMEs and start-up companies. Employment in the digital media industries in the south-west is estimated at 17,300 FTE employees.

Somerset and Devon are the home to 25 per cent of all game companies in the south-west region. So Taunton is a great hub to start your journey into the game industry, and Somerset College provides an excellent experience and support to its students. ■







Somerset College's Taunton setting, 50 miles from Bristol, is a focal point of south-west England



Get into Games
at Somerset College
• Great purpose-built facilities and resources
• Excellent employer links
• Guest speakers, live projects set by businesses and work placements
• Links with the games industry
FdSc Computer Games Technology
BSc (Hons) Computer Games Technology (top-up year)*
The Open University
Approved Institution
*Subject to validation
3D model of "Pirate Girl" created by Hannah Stone
(First year FdSc Computer Games Technology student)



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UNIVERSITY COLLEGE LONDON

Providing postgraduates with skills they can use to invent transformative videogame technology

JAMIE O'BRIEN
Research manager, VEIV
engdveiv.ucl.ac.uk

GET RECRUITED
"Gameplay realism requires a good understanding of natural and urban environments, so students should hone their observation skills through photography, drawing, reading and even creative writing. And – needless to say – play lots of games!"

One of the world's top ten universities and able to claim 21 Nobel Prize winners among its alumni, University College London has plenty to crow about. Founded in 1826, UCL is London's oldest university, and offers the decidedly futuristic sounding MRes in virtual environments, imaging and visualisation (VEIV), as well as ten fully funded places on its engineering doctorate. The research manager of VEIV, **Dr Jamie O'Brien**, explains what students can hope to gain from attending such a prestigious institution, the importance of interdisciplinary skills and how UCL intends to change the world.



What are your master's students exploring right now?
VEIV projects study the computer science and engineering behind computational capture, rendering and simulation. Current MRes student projects address topics in special effects, 3D model manipulation, games, urban and environmental design and heritage science. The MRes VEIV is ideal for those who want to continue academic research in a related area, or aspire to lead cutting-edge development in industry. Plus it counts towards our four-year engineering doctorate.

Tell us a little about the doctorate.
On the engineering doctorate, each student receives full funding to work in collaboration with a sponsoring company. Each year we have ten fully funded places available, but students can also use other sources of funding. Each EPSRC-supported [Engineering and Physical Sciences Research Council] student receives a stipend that is topped up by the sponsoring company to over £18,500 per annum.

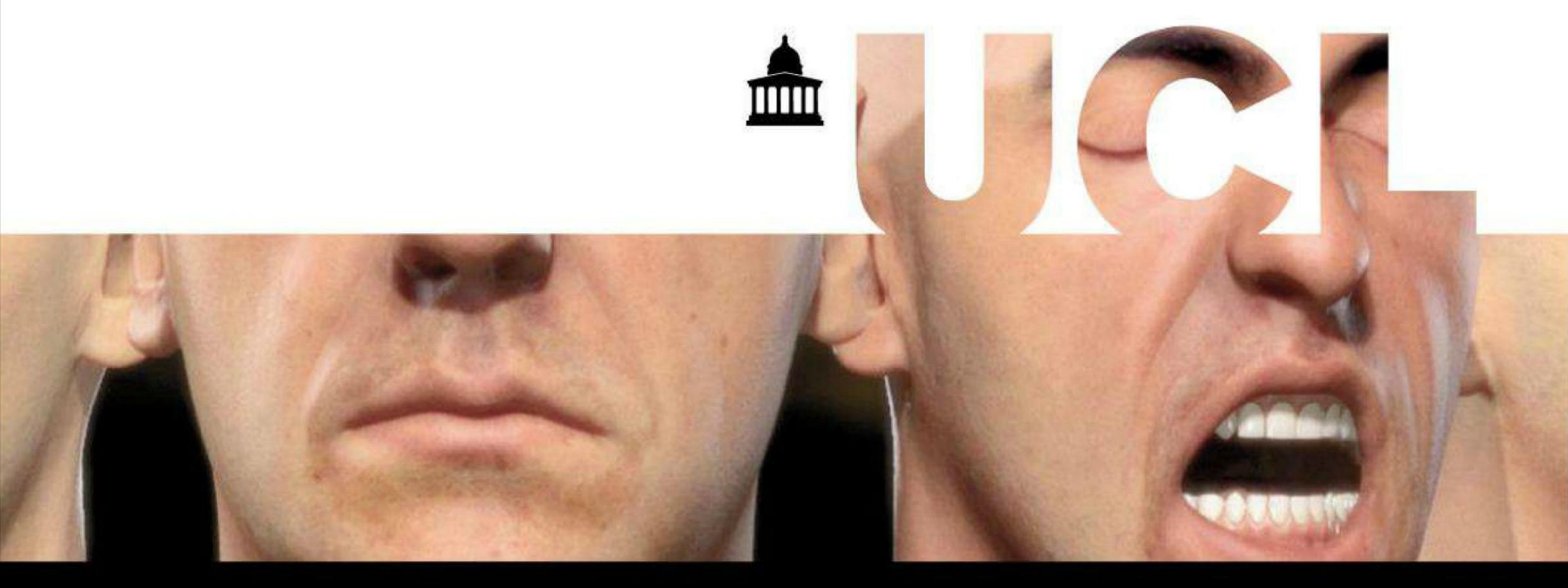
From your perspective, what does the videogame industry require from today's graduates?
Our close engagement with the industry has revealed the sector's pressing requirement for challenges to be addressed by engineers with an interdisciplinary perspective. Furthermore, R&D must be protected from an increasingly intensive market environment. As such, our teaching and training is aimed at building bespoke courses with a range of scientific and technology components, and we have a highly supportive funding scheme that helps ensure longer-term projects are driven to successful submission.

What's your aim for the course?
The motto of UCL engineering is 'Change the world,' and our master's in research meets this aim by equipping students with the skills to invent and implement transformative technologies. The courses are bespoke to the students' individual requirements and include a challenging group project. Projects to date have led to students publishing in ACM Transactions On Graphics and at SIGGRAPH, SIGGRAPH-Asia and other prestigious peer-reviewed venues.

> "The course is ideal for those who want to continue academic research, or who aspire to lead cutting-edge industry development"

How do students benefit from UCL's high global ranking?
UCL is among the world's top research universities and the VEIV Centre is the UK's EPSRC Centre of Excellence in its field. Our course leaders are world-class scientists, and our student projects have led to groundbreaking technologies and new businesses. As breakthroughs in games technologies depend on an interdisciplinary perspective, so our students and engineers benefit from diverse training and contact with all manner of academic and industry specialists.

Plus, we're located in central London, so students can enjoy access to world-leading enterprises, network hubs, exhibitions and conferences, including the VEIV Centre's popular Industry Seminar series. UCL attracts academic and industry speakers at the forefront of their disciplines, which helps to strengthen our position as a global leader in research. ■



UCL MRES VIRTUAL ENVIRONMENTS, IMAGING AND VISUALISATION

MRes VEIV is the UCL Masters in Research, Virtual Environments, Imaging and Visualisation. To gain an MRes, students must pass taught modules and successfully submit a first-year dissertation. The MRes is run by the Engineering Doctorate Centre in Virtual Environments, Imaging and Visualisation, which also runs a related engineering doctorate programme. MRes VEIV projects study the computer science and engineering behind computational capture, rendering and simulation. MRes VEIV students have access to a broad range of facilities and benefit from a rich industry-academic network. Current MRes student projects address topics in special effects, 3D model manipulation, games, urban and environmental design and heritage science. **MRes VEIV offers a flexible structure with three major components:**

- Taught modules selected from existing UCL MSc courses (3-4 modules in total). These can be chosen on a flexible basis. Students also have the option of undertaking one research-led module.
- A group project, which requires MRes students from several disciplines to work together on a ground-breaking project. Results from past projects have been outstanding, leading to publications in top-rated destinations and spin-out business
- MRes dissertation (equivalent to MSc dissertation with a greater research component), that critically explores and evaluates the state-of-the-art

The MRes VEIV is ideal for those who want to continue in academic research in the area, or aspire to lead cutting-edge development in industry.

Further details about the VEIV Centre, the MRes and EngD are available via this link:
http://engdveiv.cs.ucl.ac.uk/overview

All enquiries or expressions of interest in MRes VEIV may be directed to the **Dr Jamie O'Brien, jamie.o'brien@ucl.ac.uk**

Illustration by Tim Scully and Dr Tim Weyrich, on a project co-finded by EPRSC and P&G



ENJMIN

The French institute that encourages students to form studio-like teams, and where they may learn from Jordan Mechner

VINCENT PERCEVAULT
Sound design teacher
www.enjmin.fr

GET RECRUITED
"You should love it, that's the key. It's a matter of passion; otherwise, in three, five years, you leave."



MATTHEW TOMKINSON
Lead game designer at Ubisoft Paris

GET RECRUITED
"Go into as many projects as possible and have meaningful involvement, not just starting projects without finishing them, but finishing projects and doing every kind of game."

Enjmin is a training and research institute located in Angoulême, a city in the south-west of France, which offers a two-year master's degree in games and interactive digital media. Students can specialise in one of six areas: game design, visual design, sound and music design, programming, ergonomics and project management, and can choose to spend a third year working on a personal project.

The school is internationally recognised, and has close ties to the videogame industry – students are tutored not only by university lecturers, but also by leading figures such as *Prince Of Persia* creator Jordan Mechner and *Alone In The Dark* designer Frederick Raynal.

Despite such prestige, however, you'll pay just €400 (around £325) per year in course fees thanks to a funding setup that sees both the local region and the national government supporting the school.

"If you're passionate and you're doing a good job then of course you deserve to enter the school: it's not a question of money, it's a question of skills and passion," says founder of audio specialist Game Audio Factory and part-time sound design teacher at Enjmin, **Vincent Percevault**. "That's really important."

The course's MA status, requiring applicants to have studied for at least three years beforehand, together with its branching specialisms, means each intake is delineated by clearly defined roles and features a diverse range of skills, resulting in the natural formation of teams working in relationships that closely resemble those found in a professional studio.

"I had a lot of friendly arguments during my time at Enjmin," laughs alumnus and now Ubisoft Paris lead game designer **Matthew Tomkinson**. "It's very interesting to learn about that kind of thing before going into the professional world – it makes a big difference. For instance, when you're going into design, you have to work with a lot of specialists, and learning the vocabulary to exchange with each different person is very important."



Enjmin's students arrive with plenty of specialist knowledge, naturally forming up studio-like teams

> "If you're passionate and doing a good job then you deserve to enter the school: it's not a question of money, it's a question of skills"

It's a major focus for Enjmin, which describes itself as Europe's only 'one-stop shop for the games and new media profession', and a drive it supports with an international network of experts and companies. Previous speakers have included Lionhead founder Peter Molyneux and Electronic Arts founder Trip Hawkins, while students are offered the opportunity to secure an internship at companies such as Ubisoft, Lexis Numerique and EA. With the industry in constant flux, such close proximity to the profession itself diminishes the culture shock of moving from university to a commercial studio. And Tomkinson, who has sat on the jury for final year projects over the past couple of years, believes students have more opportunity than ever before to find their place in the wider industry.

"I don't think [graduates] face as much difficulty as they did even six years ago, as there are now a lot of platforms where they can put their project," he says, "like Xbox Live, PSN, Steam and iPhone. It's something that's much easier now – it happened last year with [liquid physics platformer] *Puddle*, which was published on Xbox Live and PSN."

That lowered bar to entry also means, however, that there's more competition. Percevault stresses that becoming familiar with tools such as Unity and UDK could give you the edge you need to stand out.

"The level of knowledge when it comes to tools is really high right now," he says while discussing the quality of applicants nowadays. "So you can make a game in your bedroom or with two or three people, but having a respected diploma, like from Enjmin, really helps *a lot* otherwise you are just someone else trying to enter the industry. ■



One of the specialist paths at Enjmin is visual design – fittingly, Angoulême is home to the largest comics festival in Europe



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TEESSIDE UNIVERSITY AND REFLECTIONS

How a close relationship between a Ubisoft dev studio and Teesside University is creating new opportunities for students

GISELLE STEWART
General manager, Ubisoft Reflections
www.ubi.com/uk

GET RECRUITED
"Research the company you are going to an interview for, and impress them with your knowledge of their products."

ANNE-GWENN BOSSER
Senior lecturer, Teesside University
www.tees.ac.uk

Teesside University has worked closely with Reflections, a Ubisoft studio, over the past 12 years, the developer taking students for work placements during sandwich years, advising on course content and providing project feedback.

The relationship led initially to Reflections' sponsorship of Teesside's Vis Awards – which recognised the achievements of students on the university's game-related courses – with Reflections judging work and offering four six-month paid internships as prizes.

Last year, Teesside's ExpoTees, an annual recruitment event that showcases final-year student work from across the range of subjects taught by Teesside University's School Of Computing, launched a new set of awards. Reflections now judges them and provides sought-after positions to winners.

"It's been an opportunity for us to find the best people on the courses, who are willing to put themselves up there to show the best of their work, why they would make a good intern and ultimately a good employee," says Reflections general manager **Giselle Stewart**. "And it's not just about their work: they're interviewed, they prepare really hard in terms of what they show, but also they prepare to be a potential member of staff. We hope this year is going to be as exciting as previous years; we're offering around four internships, but we're not going to limit it to that."

As first steps into the industry go, the internships are valuable. Interns are paid (including their first month's rent, should they have to move) and will either work with one team or more depending on their skills. "The idea is for us to see exactly what they can do and how best we could go on to work with them," adds Stewart.

Indeed, the studio has retained many Teesside-sourced interns in permanent roles. One such intern is **Matt Oakley**, a graduate from the computer games art course, who now works as an artist at Reflections and has helped to ship *Driver San Francisco* and *Just Dance 3*.

"It's a fantastic opportunity and a dream to work on such hugely successful game franchises at Reflections," he says. "There are days when I pinch myself and can't believe I'm doing this. I get to be part of creative teams who are making fantastic games. The credits roll and my name is on those credits."

But it's not just the graduates who go down this route that benefit, as Reflections' close relationship with the university feeds into the courses it offers. The studio gives advice on curriculum development and project feedback. Reflections' art director spent four months last year working with the games art course, for example.

"It's one thing to get into the game industry, but more important is staying in it. I want our students to evolve in this industry"

"We try to provide a studio-like experience for the students in a range of multidisciplinary game development projects," says **Anne-Gwenn Bosser**, senior lecturer of games programming and subject leader of games programming, artificial intelligence and mobile development. "I think we're a really good mix between industry and research, and it allows students to be very relevant to the industry – it's something we're very proud of. We have research that's been applied and collaboration with the industry in areas such as AI and augmented reality. It's a pretty unique combination."

It's one Bosser hopes will stand graduates in good stead for the realities of a career in the industry, and provide genuine long-term prospects. "It's one thing to get into the game industry, but more important is staying in it," she warns. "I don't want my students to be used for three years because they know one technology, and then have to find another job. I want them to evolve in this industry, to become lead programmers, maybe, then project managers. Getting into the industry is not the most difficult part – it's remaining there that's more of a challenge." ■



Teesside computer games art course graduate Matt Oakley interned and now works at Reflections





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